

**DEVELOPMENT AND OPERATIONS OF THE
ASTROPHYSICS DATA SYSTEM**

NASA Grant NCCW-0024

Semi-Annual Report - Report No. 4

For the Period 1 April 1994 through 30 September 1994

Principal Investigator

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May 1996

Prepared for

**National Aeronautics and Space Administration
Washington, D.C. 20546**

**Smithsonian Institution
Astrophysical Observatory
Cambridge, Massachusetts 02138**

**The Smithsonian Astrophysical Observatory
is a member of the
Harvard-Smithsonian Center for Astrophysics**

**The NASA Technical Officer for this grant is Dr. G.R. Riegler Code: SZE
NASA Headquarters, Washington DC 20546**

ASTROPHYSICS DATA SYSTEM

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Monthly Progress Report No. 26

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SUMMARY

As decided at the project meeting in March, the design and development efforts were focused on the "Tell Me About ..." service. This service will provide the users with the capability to search all the data holdings in the ADS in a coherent way.

The release of the software for the new networking architecture from Ellery Systems has been delayed. The release is now scheduled for 16-May-94. Preliminary design studies are being done for the implementation of a new architecture of the ADS that can be placed in the public domain.

At the end of April we had 1954 users. We should hit the 2000 mark in May.

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ADMINISTRATIVE

TASKS ACCOMPLISHED:

Erwin Schmerling, the Program Manager of the ADS at NASA has retired from NASA. I want to welcome the new Program Manager, Darrell New.

Discussions with NCSA are continuing about modifications to Mosaic that would allow a closer connection between the Mosaic client and the ADS.

Preparations for the AAS meeting in May/June in Minneapolis are under way. We will again have a booth for demonstrations. The equipment will be provided by the APS group at the University of Minnesota. They are on-line in the ADS with their catalogs of objects scanned from the POSS I plates, a very well received source of data.

The next 4 pages show the usage statistics. The first of these pages shows the total number of users and logins. It shows a large increase of abstract users since the release of the Mosaic version. The number of ADS logins (Kerberos) has remained fairly steady. The next page shows the statistics for only those users that are not associated with ADS project teams or node personnel. Here the number of ADS logins is still increasing. The third page shows the statistics for the project teams. It shows that the number of project member logins and project team members is steadily decreasing. This may be a sign of greater stability of the system or a sign of lack of funding. The fourth page shows the number of queries and data sets retrieved. While the number of SQL queries is fairly constant and the number of data sets retrieved from the SQL servers increases slowly, the number of queries of the abstract service and the retrieved abstracts is rapidly increasing.

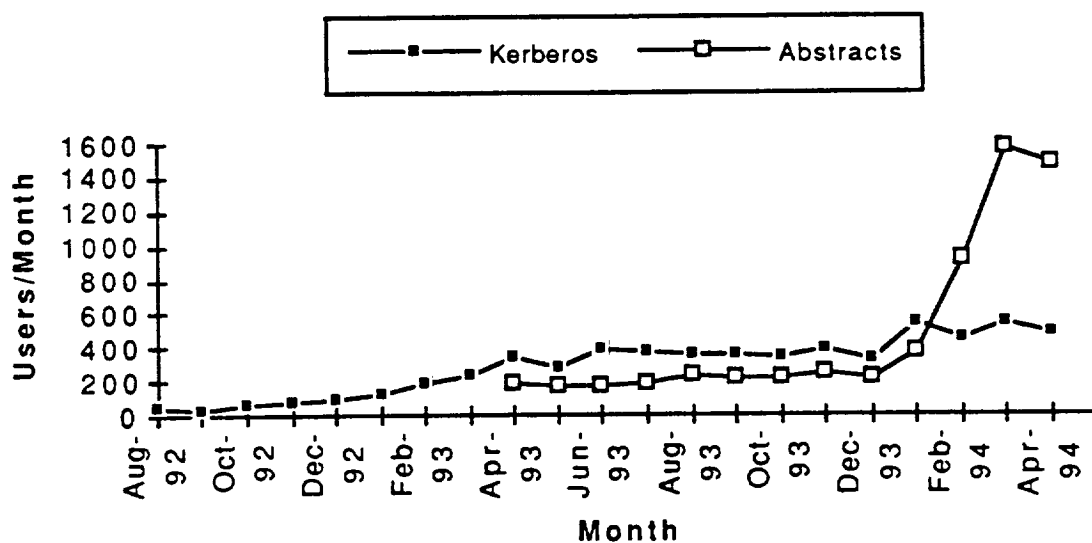
SAO

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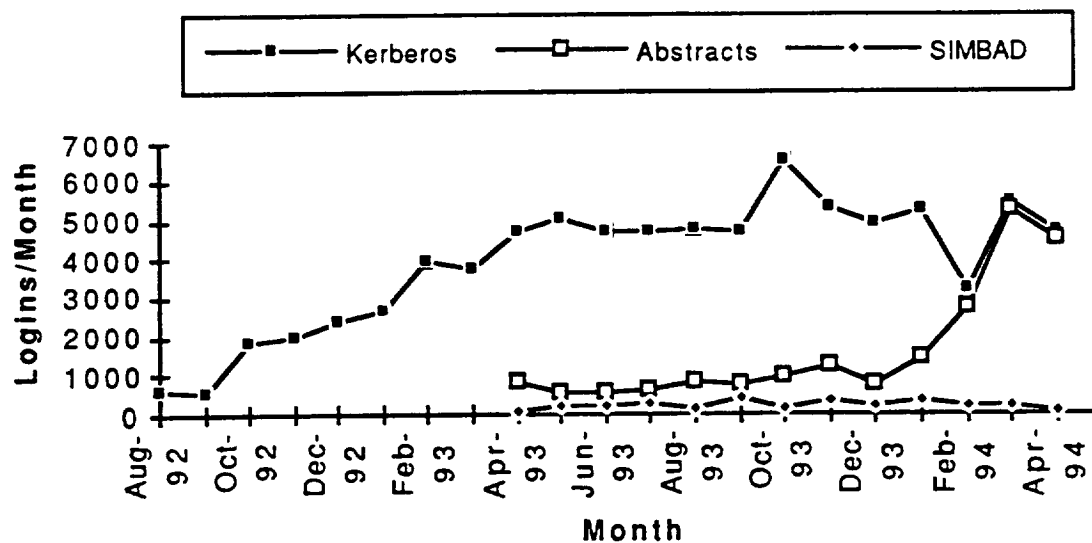
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Number of Distinct Users



Number of Logins



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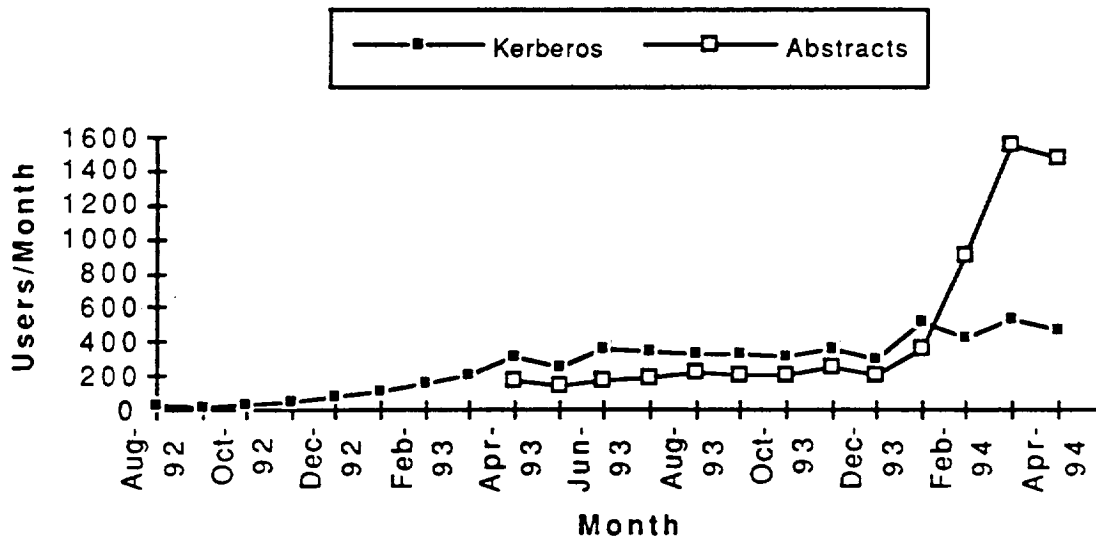
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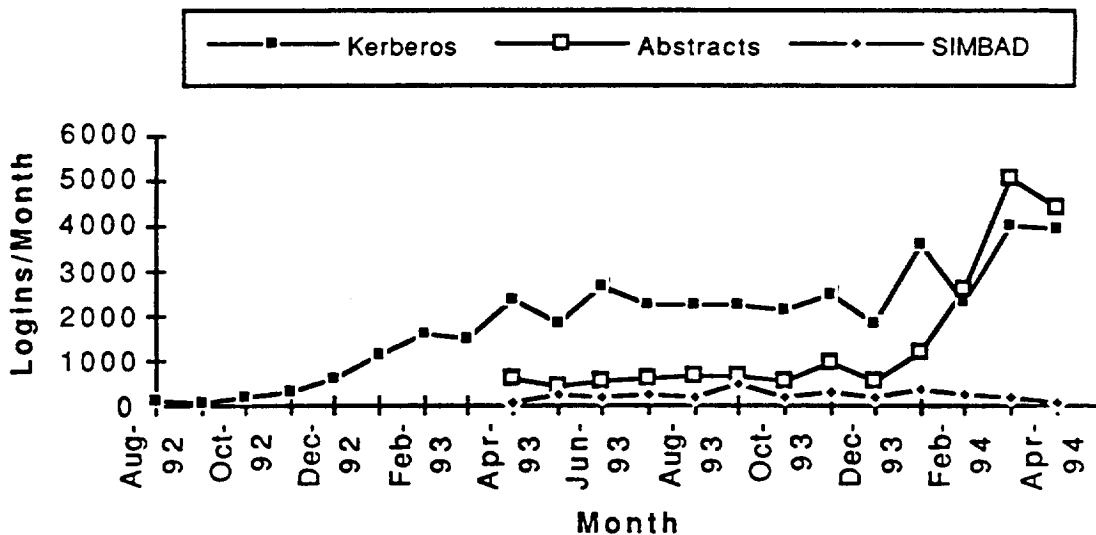
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Number of Distinct Non-project Users



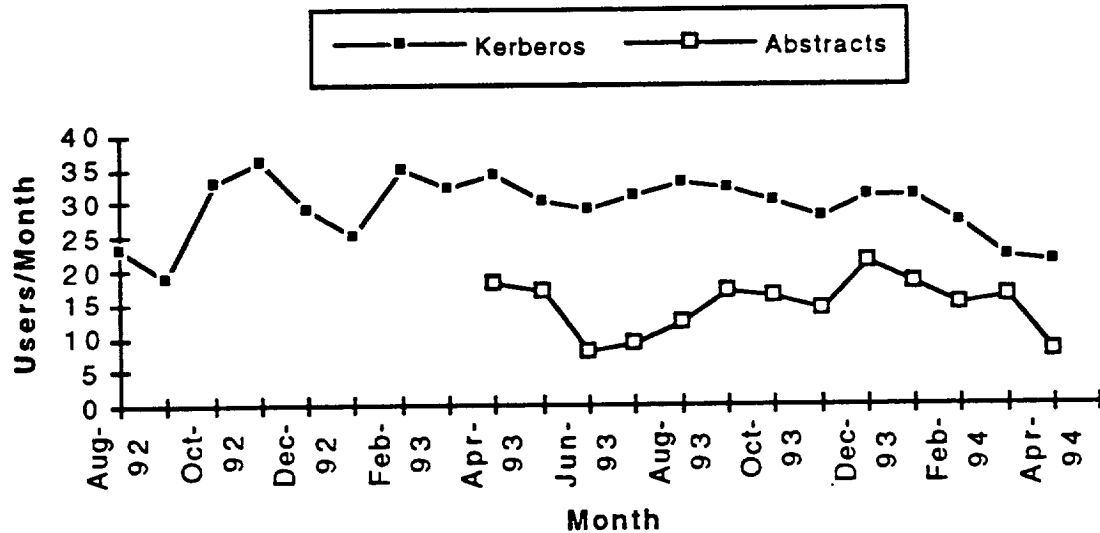
Number of Non-project Logins



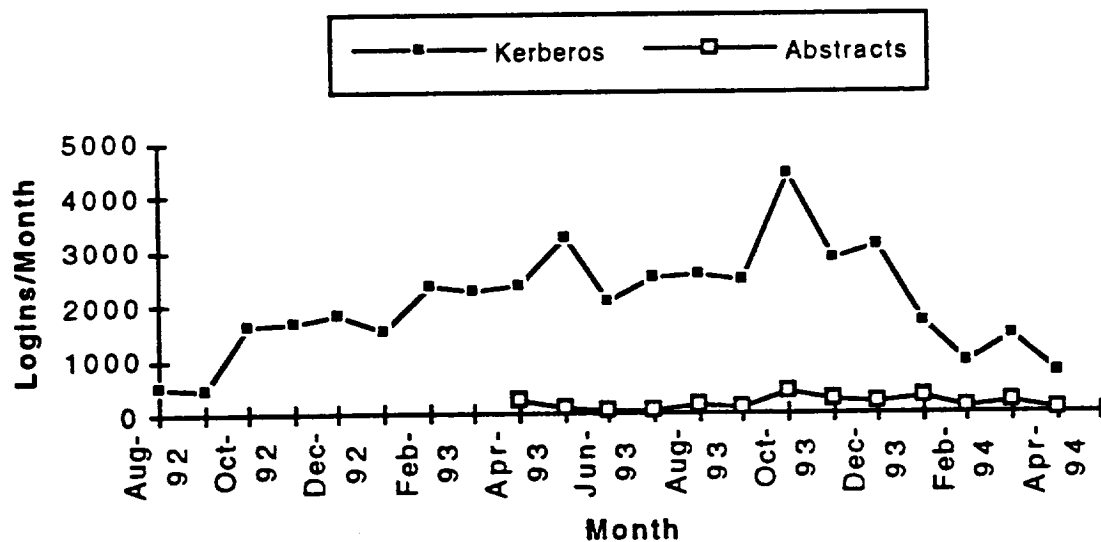
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Number of Project Team Members



Number of Project Member Logins



SAO

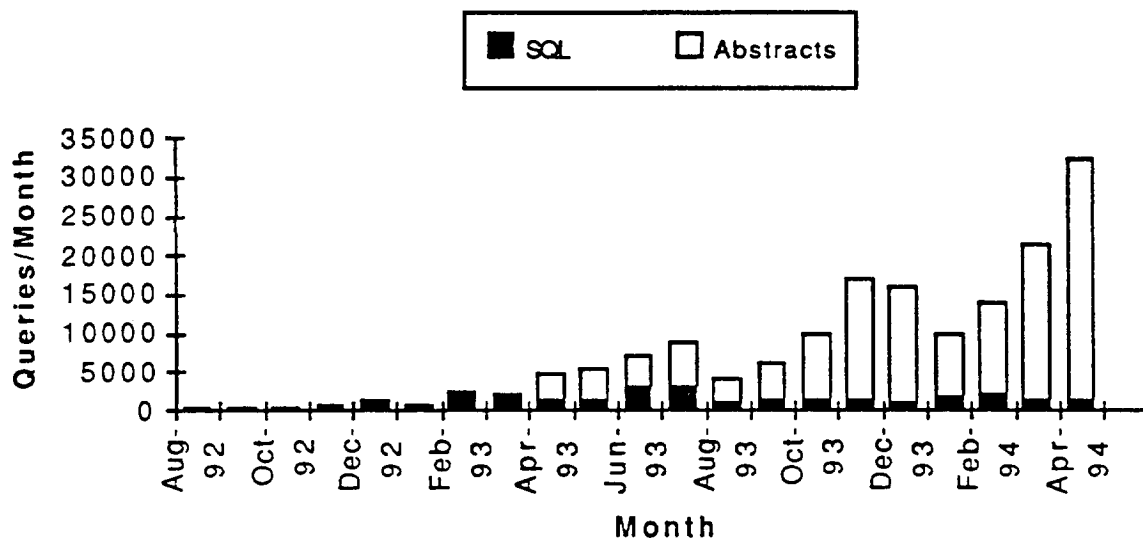
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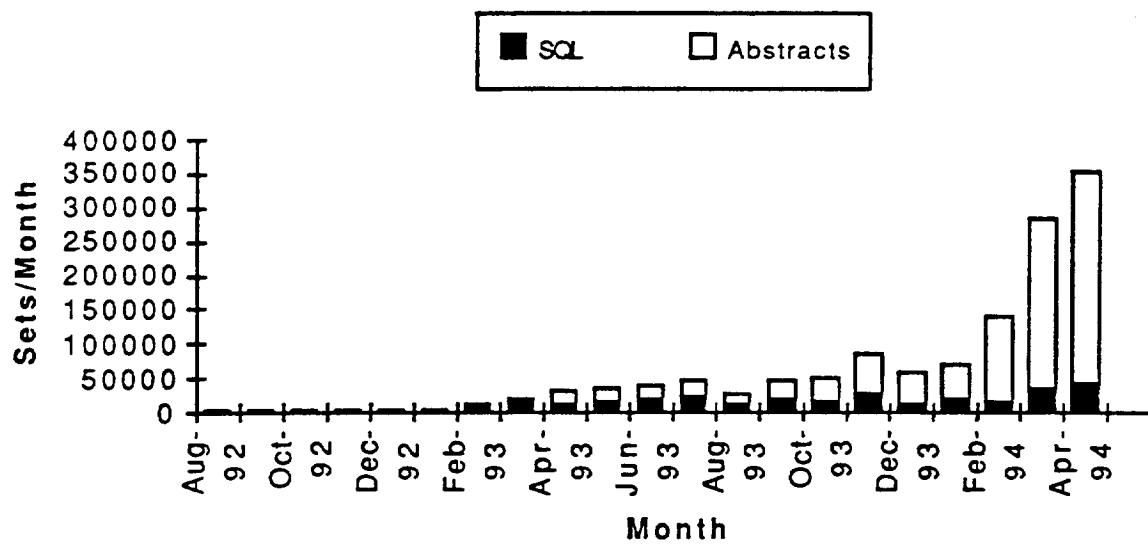
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Number of Queries



Number of Retrieved Data Sets



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SYSTEM ENGINEERING

TASKS ACCOMPLISHED:

The March 28 ADS Project meeting in Boulder, CO focussed near-term development efforts on two areas: access to unique archives and integration of existing ADS services through a single "superservice" which will allow users to pose relatively abstract and generic questions of the system and be lead to appropriate data as a result. Since the ADS was designed with just such a paradigm in mind, this is reasonably straightforward. It still, however, represents a significant investment of our limited development manpower. Design of the specific tasks associated with this service (referred to internally as the "Tell Me About ..." or TMA service) is still underway, so a schedule for delivery to the user community is not yet available.

Over the past few months, Ellery Systems (our development contractor) has been fairly rapidly evolving the focus of their internal development. While this will provide us with improved software in certain areas it may also require internal development of us in others. The final impact of these changes is not yet completely understood and no tasks have yet been defined in consequence.

Detailed Status

Listed below are the development tasks currently being undertaken by the ADS Project. Assignments (or tentative assignments) are shown by institution and by responsible party in the status section.

2 System Development

2.2 Infrastructure

- | | | |
|--------|------------------------|---|
| 2.2.1 | Core ADS System | -- User interface, installation structure |
| 2.2.2 | Remote Communications | -- Infrastructure for distributed computing |
| 2.2.3 | Remote Executive | -- EOS in server mode (for archive access) |
| 2.2.4 | Security Services | -- Authorization checking |
| 2.2.5 | Secure File Transfer | -- General mechanism for transferring files |
| 2.2.6 | Transfer Monitor | -- Coordinate file transfers for all srvc's |
| 2.2.7 | Developer's Guide | -- How to build and operate ADS services |
| 2.2.8 | CUI | -- Character-terminal user interface |
| 2.2.9 | Core ADS Upgrade | -- Upgrading the ADS Core for robustness |
| 2.2.10 | File Transfer Upgrades | -- Upgrading the file transfer for efficiency |

2.3 Operations / Management Tools

- | | | |
|-------|-------------------|--|
| 2.3.1 | Log Handling | -- Statistics and reporting |
| 2.3.2 | Monitoring | -- Service availability, usage |
| 2.3.3 | Bug Server | -- Bug report submission |
| 2.3.4 | Authenticated FTP | -- FTP server with KERBEROS authentication |
| 2.3.5 | Mission Planning | -- Generic mission planning tools |

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SYSTEM ENGINEERING (Cont'd)

TASKS ACCOMPLISHED (cont'd):

- 2.3.6 DB Validation -- Automated validation of data sets
- 2.3.7 QA Test Suites -- Procedures for checking services
- 2.3.8 Data Dictionary Tools -- Maintenance procedures for nodes

2.4 Archive Access

- 2.4.1 Abstract Server -- Access to abstract database
- 2.4.2 NED Server -- Interface to NED database
- 2.4.3 NDADS Archive -- Access to all the ADC data at NSSDC
- 2.4.4 EINSTEIN Archive -- Access to *Einstein* satellite data
- 2.4.5 IPAC Plate Archive -- Access to infrared ISSA plates
- 2.4.6 SIMBAD -- General interface to SIMBAD
- 2.4.6.1 SIMBAD Upgrade
- 2.4.7 IUE Archive -- Access to raw and processed IUE data
- 2.4.8 UMinn POSS1 Data -- Access to the digitized POSS1 plates
- 2.4.9 Abstract Svc Upgrade -- Upgrade and possible port to HP
- 2.4.10 Data Compression -- To save bandwidth during file transfer
- 2.4.11 AAVSO Archive -- Access to variable star database
- 2.4.12 NIST Archive -- Spectral line database
- 2.4.13 ROSAT Archive -- Access to ROSAT metadata (NDADS has data)
- 2.4.14 Carbon Star Spectra -- Spectral data for a set of carbon stars
- 2.4.15 PCyg Database -- IUE spectra of early-type stars

2.5 Catalogs and Tables

- 2.5.1 Catalog Access -- General access to catalog data
 - 2.5.1.1 MOSAIC Integration
 - 2.5.1.2 SQLserver Integration
 - 2.5.1.3 Coordinate Conversion Integration
 - 2.5.1.4 Data Dictionary Integration
 - 2.5.1.5 Positional Query Integration
 - 2.5.1.6 WAIS Integration
 - 2.5.1.7 Query Fan-Out Integration
- 2.5.2 SQL Server -- Updated service to RDBMSs
 - 2.5.2.1 SQLserver Installation
 - 2.5.2.2 Data Dictionary Installation
 - 2.5.2.3 FITS Integration
 - 2.5.2.4 Dynamic Coordinate Handling
- 2.5.3 Documentation Server -- Distributed access to document files
- 2.5.4 Data Dictionary -- Information on catalog units and formats
- 2.5.5 Coordinate Handling -- Both as service and policy

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SYSTEM ENGINEERING (Cont'd)

TASKS ACCOMPLISHED (cont'd)

- 2.5.6 QBT -- Query by Table (simpler catalog query)
 - 2.5.7 Table Calculator -- Simplified table manipulation
 - 2.5.8 Proximity Join -- Joining tables on positions
 - 2.5.9 Correlation Tools -- Comparing of tables from different catalogs
 - 2.5.10 Query Fan-Out -- Querying multiple catalogs at once
 - 2.5.11 Natural Language -- Using natural language for data searches
 - 2.5.12 Dynamic Catalog Mgmt -- Updating of catalogs on the fly
 - 2.5.13 Subservice Install -- Hooks for future catalog access functions
 - 2.5.14 Query Manager -- Keep track of outstanding queries
 - 2.5.15 Table Handling -- Stand-alone DBMS/Spreadsheet functionality
-
- 2.6 Visualization
 - 2.6.1 Plot Tool -- XY plotting
 - 2.6.2 Skyview -- Image display
 - 2.6.3 AGRA -- Sky mapping
 - 2.6.4 SAOimage -- Image display
-
- 2.7 Packages Interfaces
 - 2.7.1 IRAF Server -- General interface to IRAF
 - 2.7.2 IDL Server -- General interface to IDL
 - 2.7.3 WAIS Server -- WAIS client as ADS service
-
- 2.8 Science Integration
 - 2.8.1 TMA Service -- "Tell Me About ..." inteface
 - 2.8.2 SIMBAD/TMA I/F -- Patch to the SIMBAD svc for TMA access
 - 2.8.3 NED/TMA I/F -- Patch to the NED svc for TMA access
 - 2.8.4 NDADS/TMA I/F -- Patch to the NDADS svc for TMA access
 - 2.8.5 EINSTEIN/TMA I/F -- Patch to the *Einstein* svc for TMA access
 - 2.8.6 ISSA/TMA I/F -- Patch to the ISSA svc for TMA access
 - 2.8.7 Abstract/TMA I/F -- Patch to the Abstract svc for TMA access
 - 2.8.8 Skyview/TMA I/F -- Patch to the Skyview svc for TMA access
 - 2.8.9 AGRA/TMA I/F -- Patch to the AGRA svc for TMA access
 - 2.8.10 SAOimage/TMA I/F -- Patch to the SAOimage svc for TMA access
 - 2.8.11 Carbon Star/TMA I/F -- Patch to the Carbon Star Svc for TMA access
 - 2.8.12 Pcyg/TMA I/F -- Patch to the Pcyg Svc for TMA access

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SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

2.2.1 Core ADS System

Michelle Neves (CASA)

By "Core System" we mean the organization, on the client side, of user services and UI functionality. This is distinct from the maintenance and organization of remote services and their operation. The goal here is to provide an environment where new or updated services can easily be added by a knowledgeable user. This work is crucial to get us into a mode where services can be incrementally added or changed.

STATUS: The first version of this is in the field and has been very well received.

2.2.2 Remote Communications

Devin Hooker (ESI)

The name of this task has been changed since the actual mechanism to be used has been redesigned and is no longer encapsulated in the programs RPI and SMS. However, the new code has the same basic function, which is to control communications to any ADS services running on a particular machine. This functionality is the core of the distributed computing capability used by ADS.

This package provides service registration and location functionality and some aspects of system security. The ADS Project decided to take this step in response to the poor operability of the current ANSA Trader code.

STATUS: Development is currently underway at ESI. While this is not an ADS-funded effort, it is critical to the Project and is therefore, listed as a task here.

2.2.3 Remote Executive

(ESI ?)

This task has been renamed to indicate a more general scope.

There are several reasons for needing a general executive function which can be run remotely. In order to control general data access services (*e.g.*, NDADS) which can take hours or even days to retrieve results, we plan to use an EOS server. Also, there are times when the most effective way to handle a user's request is by fanning-out the processing to several machines or setting up a hierarchy of processors.

This code will probably be very similar to the executive process running directly under user control on the client machine.

STATUS: Problems that arose in testing the EOSserver from ESI have lead to abandoning that approach for the time being. As resources permit, we hope to revive this task at some point in the future.

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SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.2.4 Security Services

Steven Lo (IPAC)

ADS security is based on the KERBEROS package developed as part of Project Athena at MIT. The ADS-developed tools on top of this system allow for user authentication at the service level and for completely secure communication of data.

This functionality needs to be folded into all aspects of the ADS system and provided as a simple set of library tools for service builders.

STATUS: First generation toolkit delivered for testing. Maintenance and refinement on-going as time permits.

2.2.5 Secure File Transfer

Steve Lo (IPAC)

The file transfer service pair (send/receive) currently in use is being rewritten to enhance its efficiency (Task 2.2.10). Full optional security checking will be added to this version.

STATUS: The new FT service pair is currently in development. Security will be added to this at an appropriate time.

2.2.6 Transfer Monitor

Gregg Allison (CASA)

Since many services invoke file transfers at one time or another, it makes sense to coordinate these requests through one service than to have separate monitor functionality for each service.

STATUS: Done. It is currently unclear whether a second generation of this service will be needed to accommodate the updated FT service (Task 2.2.10).

2.2.7 Developer's Guide

Alice Bertini (CASA)

The real power of the ADS is that it allows data/processing service owners to turn their product into ADS services simply and quickly. In order to facilitate this while still maintaining some level of uniformity to interaction look-and-feel, we must establish and publish guidelines and procedures for new developers to follow.

STATUS: Complete and on-line. Updating of this document is an on-going LOE task.

2.2.8 CUI

Alice Bertini (CASA)

There is at present no good way for users with character terminals to access ADS functionality. A limited subset interface to such things as archive queries and catalog requests could be provided if there is sufficient interest.

STATUS: Design work for this task has not been scheduled.

2.2.9 Core ADS Upgrade

Michelle Neves (CASA)

Several refinements to the Core ADS system have been proposed which would further enhance the user's ability to maintain and update their installation.

STATUS: Design work begun.

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SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.2.10 File Transfer Upgrades

Gregg Allison (CASA)

The current File Transfer service is based on the FTP protocols which were defined originally to work on slow and unstable networks. They are, in consequence, quite slow.

The purpose of this task is to rewrite this service to maximize efficiency.

STATUS: Design work begun.

2.3.1 Log Handling

Jing Li (IPAC)

Currently, our ability to determine system usage as a function of time or user is severely constrained by the format of log files and the data they contain. A generic log handling service (based on the Remote Executive and Table Handling services) will provide a wide range of statistical measures of system usage.

STATUS: An initial version of this code, based on EOS, has been developed. Fully functional remote service code is dependent on development of the Remote Executive and Table Handling services.

2.3.2 Monitoring

Jing Li (IPAC)

Part of the proposed enhancements to the Remote Communications system software are the hooks to allow Operations to reliably monitor and control services.

STATUS: The client tools to do this will be designed and built as soon as this functionality in Remote Communications system is available.

2.3.3 Bug Server

Jacque Anderson (CASA)

The Bug Server would be a simple local server and widget to help the user construct reports and mail them to User Support.

STATUS: Initial design complete. Development not yet begun.

2.3.4 Authenticated FTP

Steven Lo (IPAC)

A version of the standard FTP daemon which uses KERBEROS authentication to the ADS user database to confirm the right to download system components.

STATUS: Done.

2.3.5 Mission Planning

(SAO ?)

One long-term objective being considered by the ADS Project is the development of distributed mission planning and mission operations tools to support many missions. A preliminary study has shown that many of the mission planning tools currently in use have a core of similar functions that are "re-invented" by each mission center. In addition, the interface of mission planning tools with the user community varies with each mission, requiring that scientists learn several slightly different systems. The ADS can be helpful in supplying missions with a library of planning tools, and a standard user interface. This will allow mission resources to be concentrated on mission specific requirements. It offers the

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SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.3.5 Mission Planning (cont'd)

user community a simpler mechanism for developing observation requests in response to NASA AOs, particularly through the use of electronic preparation and submission of these requests.

STATUS: Design work not yet scheduled.

2.3.6 DB Validation

(CASA)

Automated procedures to confirm that the data retrieved via ADS are not different from the original data source. Test and QA along with the Project Office make an initial verification of data when it is first made available via ADS. In order to assure that changes to these data are not introduced by the system, regular sampling of the databases is made and compared with reference results.

STATUS: Done for first release of ADS. No further work currently planned.

2.3.7 QA Test Suites

(CASA)

As part of Quality Assurance, CASA will maintain and update a regression testbed of information and a suite of procedures that test ADS functionality. This is distinct from the operational monitoring required of Operations and is for a quite different purpose: spot-checking and regression analysis rather than real-time monitoring.

STATUS: On-going.

2.3.8 Data Dictionary Tools

Carolyn Stern Grant (SAO)

With the new SQLserver/Catalog Access, ADS nodes will be making much more use of Data Dictionaries (tables defining the contents of catalogs; which columns are positions, what formats to use for reporting, etc.). Consequently, there is need for a set of utilities which will aid the nodes in maintaining these tables.

STATUS: Design not yet begun.

2.4.1 Abstract Server

Guenther Eichhorn / Carolyn Stern Grant (SAO)

The Abstract Server provided remote access to a database of abstracts culled from the Astrophysics literature by NASA RECON.

STATUS: Done and in operation.

2.4.2 NED Server

John Good (IPAC)

The NED database contains a large amount of data about extragalactic sources, including basic data on positions and fluxes, abstracts and references, etc. The initial ADS interface, at the request of the NED project, has been limited to accessing basic name and positional information.

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SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.4.2 NED Server (cont'd)

In the longer term, many people have expressed a desire for more of the NED functionality beyond the basic name/position resolution currently offered. It is unclear whether this should be an ADS task or left to the NED project.

STATUS: Done and in operation.

2.4.3 NDADS Archive

Gregg Allison (CASA)

The NDADS server provides raw data archive access to the astronomical holdings at NSSDC. Metadata defining the contents of this archive are in short supply, however, and would greatly enhance the value of the data.

STATUS: Done and in operation.

2.4.4 EINSTEIN Archive

(SAO)

The *Einstein* archive server provides metadata tables as well as real data tables and images of *Einstein* data. In structure this service is similar to the NDADS server, and some of the same functionality has been reused.

STATUS: Done and in operation.

2.4.5 IPAC Plate Archive

John Good (IPAC)

IPAC is putting on-line all of the ISSA infrared sky images which cover the whole sky in a regular pattern. This service allows a user to request an image or part of an image centered on a particular sky position.

STATUS: Done and in operation.

2.4.6 SIMBAD Server

Carolyn Stern Grant (SAO)

The SIMBAD database contains a large amount of data about galactic sources (mostly stellar), including basic data on positions and fluxes, abstracts and references, etc.

STATUS: Done and in operation. Task 2.4.6.1 is a follow-on.

2.4.6.1 SIMBAD Server Upgrade

Strasbourg has released new SIMBAD interface routines. The ADS service needs to be updated to use these.

STATUS: Design not yet begun.

2.4.7 IUE Archive

(CASA ?)

IUE data is available through the NDADS service, but there is still a need for a metadata search capability to help the user locate the correct data sets to request.

STATUS: Design not yet begun.

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Status as of: 1 May 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.4.8 UMinn POSS1 Data (IPAC ?)

The University of Minnesota has scanned the POSS-1 plates and created a database of sources detected. This data can and will be accessed through a standard SQLserver. The project will, if necessary, lend some assistance to UMinn in setting this up since this is a uniquely valuable resource for the community.

STATUS: Preliminary design discussions have been held but no work is yet assigned.

2.4.9 Abstract Svc Upgrade (SAO)

The Abstract Server, while quite successful and capable, was a venture into new territory and will certainly need updating as we gain experience. In addition, it has been proposed to migrate the server to a faster platform for added throughput.

STATUS: Design has not begun.

2.4.10 Data Compression (SAO ?)

Determine the feasibility and usefulness of data compression for bulk data transfer. If the study determines that data compression would be useful, this task would implement data compression for large-volume data.

STATUS: Study has not begun.

2.4.11 AAVSO Archive Carolyn Stern Grant (SAO)

The American Association of Variable Star Observers (AAVSO) has the oldest and most complete set of light curves for variable stars. The database for this archive will be mounted at SAO and updated regularly.

STATUS: In development.

2.4.12 NIST Archive Carolyn Stern Grant (SAO)

The National Institute for Standards and Technology (NIST) maintains a database of spectral line strengths for a large (and growing) number of atomic and isotopic species. Access to this service will be through NIST computers.

STATUS: In development.

2.4.13 ROSAT Archive Carolyn Stern Grant (SAO)

Use of the ROSAT metadatta tables give us a mechanism for determining which ROSAT data items to request from the NDADS service. This is a good example of how layering of services increases the value of the sum.

STATUS: In development.

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Achievement: _____ J. Good (IPAC)

Status as of: 1 May 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.4.14 Carbon Star Spectra

John Good (IPAC)

A researcher at NRAO (Cecelia Barnbaum) wishes to make a small database of carbon star spectra available. This service aids the user in selecting which star and which spectral region and then uses the file transfer tool to copy the data.

STATUS: Done and in operation.

2.4.15 PCyg Database

Doug Lindholm (CASA)

Access to an archive of IUE spectra of early-type stars. The data is transferred in the form of FITS files.

STATUS: Done and in operation.

2.5.1 Catalog Access

Alice Bertini / Michelle Neves (CASA)

The current catalog access interface distributed with the ADS client was the first service built and makes use of the first generation SQLserver and catalog documents that must be distributed with the system. As is typical of such endeavors, it suffers from learning curve problems.

In migrating to the new SQL Server and Documentation Services, we must also update the integrated Catalog Access environment. We plan to make use of this opportunity to add some functionality to handle casting of coordinate from one catalog representation to another (a "Data Dictionary" mechanism). This additional functionality is considered critical by our user community and should greatly enhance catalog interoperability.

STATUS: This task has been subdivided into subtasks 2.5.1.1 through 2.5.1.7.

2.5.1.1 MOSAIC Integration

Integrate the MOSAIC documentation server (Task 2.5.3) into the system in the special case of ADS catalog documentation handling.

STATUS: Done and in operation.

2.5.1.2 SQLserver Integration

The new SQL Server is quite different from the one currently in use. Consequently, there is a fair bit of work needed to integrate it into the Catalog Access environment properly.

STATUS: Work started.

2.5.1.3 Coordinate Conversion Integration

Often the query the user wishes to pose to the Catalog Access environment is couched in terms of a coordinate system other than that in which the data is stored. When this happens, it is desirable to perform coordinate translations on the fly, both on the query and on the output tables.

STATUS: Work started.

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Achievement: _____ J. Good (IPAC)

Status as of: 1 May 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.1.4 Data Dictionary Integration

Data Dictionaries provide a convenient way for specifying how data should be interpreted and formatted when extracted from a DBMS table. The purpose of this task is to determine how best to ensure that this functionality is provided in a uniform way across the ADS.

STATUS: Work started.

2.5.1.5 Positional Query Integration

The initial ADS catalog query mechanisms were built on the use of generalized SQL requests to DBMSs whereas the bulk of user requests are for area searches around specific sources or locations. The purpose of this task is to build a general "search-in-a-cone" interface to satisfy the need for these simpler requests.

STATUS: Work started.

2.5.1.6 WAIS Integration

One of the central functions of the TMA service (Task 2.8.1) will be the ability to determine from limited subject-matter input which datasets to search. We plan to build this functionality on top of a set of WAIS servers (Task 2.7.3).

STATUS: Information content definition in progress.

2.5.1.7 Query Fan-Out Integration

As part of the TMA service (Task 2.8.1), we will be setting up a set of catalog queries to be sent out simultaneously to several servers. This ability needs to be built into the general Catalog Access tool and coordinated with other queries (through the Query Manager; Task 2.5.14).

STATUS: Work begun.

2.5.2 SQL Server

Alberto Accomazzi / Carolyn Stern Grant (SAO)

With the update to the distributed processing architecture that is currently being tested, the old SQL server access to catalog databases needed to be updated as well. In particular, support for the new service access architecture and for FITS data transfer.

The basis for this service was developed at ESI and has been delivered. Several upgrades are planned before this service is put to use.

STATUS: This task has been subdivided into subtasks 2.5.2.1 through 2.5.2.4.

2.5.2.1 SQLserver Installation

The SQLserver and associated tools constitute a large and important service package. In addition, specific support will be available for several optional DBMS systems. Packaging of this service for installation and operation is therefore, a task in itself.

STATUS: Work not yet begun.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 May 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.2.2 Data Dictionary Installation

The Data Dictionary work done under Task 2.5.4 must be integrated into the SQLserver to allow it to correctly format output and identify which columns represent which coordinates.

STATUS: Work not yet begun.

2.5.2.3 FITS Integration

One of the modes in which the SQLserver will return data is as a FITS table file copied as a file to the user's machine. This table file must contain all the information necessary for the user to import it into existing reduction packages.

STATUS: Work not yet begun.

2.5.2.4 Dynamic Coordinate Handling

With the Data Dictionary and Coordinate Conversion utilities in place, the SQLserver should be able to provide functionality above and beyond simple SQL request handling. Specifically, requests for information on a region can be submitted in any coordinate system and converted on input and data coordinate information can be converted to any coordinate system on output.

STATUS: Work not yet begun.

2.5.3 Documentation Server

Michelle Neves (CASA)

The DOCserver is meant to provide a standard mechanism for users to obtain textual data from any server site. This will include timestamp checking to allow for dynamic updating so that we can be sure that all users are seeing the same documentation.

This functionality is critical to get us out of the mode of distributing documentation on all the catalogs (and therefore requiring massive system releases).

This service makes use of an existing document handling system called MOSAIC for most of its functionality.

STATUS: Done and in operation. Discussion is underway with NCSA (developers of MOSAIC) concerning collaborative efforts to better merge our systems' functionality.

2.5.4 Data Dictionary

Alice Bertini (CASA)

Intercomparing catalogs is usually a matter of checking for positional coincidence. Since existing catalogs currently use a variety of coordinate naming and representation schemes, it is necessary that we have some mechanism for determining this information on a catalog-by-catalog basis. The simplest way to do this is with a standard DBMS "data dictionary" approach. This task is to provide the mechanisms to implement a data dictionary and to provide the hooks for the catalog access system to make use of it.

In addition, Data Dictionaries provide a mechanism for specifying output report formats.

STATUS: In development.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 May 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.5 Coordinate Handling

Carolyn Stern Grant (SAO)

Since coordinates play such a pivotal role in astronomy, we have found it necessary to provide a consistent and uniform set of coordinate handling tools for ADS users and developers. These basic tools will be used extensively, not just by ADS for its internal development but by potential service providers as well.

STATUS: Done and in operation.

2.5.6 QBT

(SAO)

The current Query-By-Example (QBE) functionality in ADS has been found to be cumbersome for most applications and at the request of our users we are planning a more user-friendly interface that uses a more compact, tabular form. This Query-By-Table (QBT) should greatly improve the usability of the current Catalog Access but the effort currently has low priority since it results in no new basic functionality.

STATUS: Initial design complete. Final design effort not yet scheduled.

2.5.7 Table Calculator

Gregg Allison? (CASA)

There are many functions that scientists want to perform on tabular data that are not typically found in commercial DBMS software, nor is the interface available in these environments flexible enough for the kind of detailed analysis that scientists need to do. With the functionality already available in ADS, it should be straightforward to provide better tabular analysis tools.

STATUS: Design not yet scheduled.

2.5.8 Proximity Join

? (SAO ?)

The primary mode that astronomers use in comparing tables of sky objects is to check the proximity on the sky of sources. This function is not currently supplied by commercial DBMSs (in fact, is at odds with the standard relational model which only deals with "equi-joins"). This task would be to provide a mechanism for "joining" two tables on the basis of the proximity of two objects in it.

STATUS: Design not yet scheduled.

2.5.9 Correlation Tools

? (SAO ?)

The basic ADS system contains a simple correlation function which compares catalog tables on the basis of positional coincidence. Other correlation functions based on source properties, classifications, names, etc., are possible. Tools for generating these correlations will be developed and added to the system.

STATUS: Design not yet scheduled.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 May 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.10 Query Fan-Out ? (SAO ?)

It is often desirable to use the results of a query as the basis of follow-up queries to multiple catalogs for multiple objects. The Fan-out tool will provide a GUI widget to create the multiple follow-up queries and to collect the results in a single response.

STATUS: Subsumed by Task 2.5.1.7.

2.5.11 Natural Language ? (SAO ?)

Determine the feasibility of using natural language queries for data retrieval.

STATUS: Design not yet scheduled.

2.5.12 Dynamic Catalog Mgmt ? (SAO ?)

Implement the dynamic addition and removal of catalogs. In ADS 2.0 the catalogs are hardcoded in the user release. With the dynamic catalog management, new catalogs can be brought on-line without requiring a new user release.

STATUS: Superseded by the work on Catalog Access and Documentation Service.

2.5.13 Subservice Install Michelle Neves (CASA)

The ADS as a whole has the ability to add new services. This concept has to be extended down into the services since many of these are themselves dynamic collections of smaller pieces. This is especially true of the catalog access service, but the model developed here should be general.

STATUS: Not yet begun.

2.5.14 Query Manager ?

The original SQLserver/Catalog Access system had as one component a Query Manger. This component was responsible for keeping the user apprised of the status of all outstanding queries.

With the new Catalog Access system, we will need to update (or rewrite) this function, possibly building on our experience with the File Transfer monitor.

STATUS: Not yet begun.

2.5.15 Table Handling ?

In the current ADS system, the handling of tables is integrated directly into the Executive process (EOS). This causes several problems, the greatest of which are subsequent slowness of the program as an Executive and difficulty in using table handling functions from within other services.

The purpose of this task is to provide table handling functionality in a stand-alone mode.

STATUS: Not yet begun.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 May 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.6.1 Plot Tool

Gregg Allison (CASA)

The current plot tool distributed with the system is based on a prototype IDL service developed at CASA and requires IDL (either local or remote) to run. A small amount of fine tuning of this functionality is warranted, but the service is essentially done.

Several preliminary studies have been done on integrating in existing portable graphics packages so we can offer software to people that they can run on their own machines.

STATUS: Pieces have been delivered to CASA. Development and integration there has not yet begun.

2.6.2 Skyview

John Good (IPAC)

Skyview is a program developed at IPAC for display and analysis of astronomical images in various formats. This work is funded by IPAC and has no direct relationship to ADS or funding by it.

STATUS: Done and distributed.

2.6.3 AGRA

Jing Li (IPAC)

This local service is self-contained code for turning coordinate tables into sky maps (various projections). The development has been slow since this is not a high priority item. This service is designed to allow easy use as either an ADS server body or a stand-alone program and is integrated with both ADS services which return positional tables (NED, SIMBAD, Catalog Access) and with image display services (providing coordinate, point source, and area overlays).

STATUS: In test.

2.6.4 SAOimage

Carolyn Stern Grant (SAO)

SAOimage is an image display program widely used in the astronomical community, partly due to its links to the IRAF package. SAO has undertaken to build an ADS interface themselves, so the only Project task is to QA it.

STATUS: Done and distributed.

2.7.1 IRAF Server

? (SAO ?)

The goal of IRAF was to provide a set of data processing and analysis services. This meshes extremely well with the ADS functionality to provide distributed access to such services. In addition, the interfaces of the two systems are constructed in such a way as to allow melding of the systems with minimal impact on either.

STATUS: No work yet planned.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 May 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.7.2 IDL Server ? (CASA ?)

IDL is widely used in the astrophysical community for visualization and analysis of local data sets. Combining this functionality with ADS should produce a general distributed data processing environment of great power.

STATUS: No work yet planned.

2.7.3 WAIS Server Jing Li (IPAC)

WAIS provides distributed access to a number of textual databases around the country. Rather than replicating this functionality, it makes sense for the ADS to tap into the existing services. The simplest way to do this is to create a custom WAIS client that would run as a local ADS service. Not only do we then have access to all WAIS functionality, but we add the value of the ADS GUI interface and additional data processing tools to WAIS.

STATUS: No work yet planned though this may follow on closely to the MOSAIC Documentation Server work that is on-going.

2.8.1 TMA Service John Good / Jing Li (IPAC)

The number one request of our users is for a simple way to request information on a specific source: "What can you tell me about M31?" In response to this, the ADS Project is initiating a large effort to tie the various tools in the system into a "Tell Me About ..." (TMA) service.

This task is to provide the client-side interface and integration necessary to tie the rest of the services together.

STATUS: Design phase initiated.

2.8.2 SIMBAD/TMA I/F Carolyn Stern Grant (SAO)

SIMBAD will need to provide a simple function to return location and source type given an object name.

STATUS: Not yet begun.

2.8.3 NED/TMA I/F John Good (IPAC)

NED will need to provide a simple function to return location and source type given an object name.

STATUS: Not yet begun.

2.8.4 NDADS/TMA I/F Gregg Allison (CASA)

If possible, NDADS should provide a simple function to return a list of images given a location on the sky.

STATUS: Not yet begun.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 May 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.8.5 EINSTEIN/TMA I/F

Alberto Accomazzi (SAO)

Einstein should provide a simple function to return a list of images given a location on the sky.

STATUS: Not yet begun.

2.8.6 ISSA/TMA I/F

Jing Li (IPAC)

ISSA should provide a simple function to return a list of images given a location on the sky.

STATUS: Not yet begun.

2.8.7 Abstract/TMA I/F

Carolyn Stern Grant (SAO)

The Abstract Service should provide a simple function which returns a list of abstracts given a block of subject text.

STATUS: May already exist as part of the current service.

2.8.8 Skyview/TMA I/F

John Good (IPAC)

Skyview needs to provide a mode to display an image given a file name with everything else defaulting to nominal values.

STATUS: Not yet begun.

2.8.9 AGRA/TMA I/F

Jing Li (IPAC)

AGRA needs to provide a mode to make a map from a set of tables with most things defaulting to nominal values.

STATUS: Not yet begun.

2.8.10 SAOimage/TMA I/F

Alberto Accomazzi (SAO)

SAOimage needs to provide a mode to display an image given a file name with everything else defaulting to nominal values.

STATUS: Not yet begun.

2.8.11 Carbon Star/TMA I/F

John Good (IPAC)

The carbon star service needs to provide access based on SIMBAD star names.

STATUS: Not yet begun.

2.8.12 PCyg/TMA I/F

Doug Lindholm (CASA)

The PCyg service needs to provide access based on SIMBAD star names.

STATUS: Not yet begun.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Nousek (PSU)

Status as of: 1 May 1994

USER COMMITTEE

PSU:

- Nothing to report.

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 May 1994

USER SUPPORT

CASA:

The month of April was spent developing and testing an ADS Core System patch to use anonymous Kerberos authentication, providing service updates, reviewing and contributing to the "Tell Me About ..." service design, updating the documents available on the web, and adding new catalogs from the ADC CD-Rom to the CASA node.

Note: Tasks marked with ** indicate on-going tasks that cannot accurately reflect a % complete.

The updated MicroSoft Project input files for the month ending April 1994 are available via anonymous ftp on cuads.colorado.edu in /pub/ads_int/status in the following files:

user_sup_apr.mpp	- User support
qa_apr.mpp	- Testing / QA
mainten_apr.mpp	- System maintenance & integration
develop_apr.mpp	- Development
node_sup_apr.mpp	- Node Support
meetings_apr.mpp	- Meetings
managemt_apr.mpp	- CASA project management

TASKS ACCOMPLISHED:

- User Support statistics for the month:
 - New users: 64
 - New US users: 43
 - New non-US users: 19
 - Total users as of 5/1/94: 1954
 - Total US users as of 5/1/94: 1475
 - Total non-US users as of 5/1/94: 479
 - Information requests: 17
 - * answered questions: (includes "answered bin" and phone calls) 167
 - * resolved problems: (multiple messages for each of these) 8
- ADS Operational Web Server Statistics for the month:
 - April's statistics can be found at the following http address:
 - * <http://adswwww.colorado.edu/reports/status.Apr94>
 - Statistics for all months can be found at the following http address:
 - * <http://adswwww.colorado.edu/reports/reports.html>

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 May 1994

USER SUPPORT (Cont'd)

CASA:

TASKS ACCOMPLISHED (cont'd):

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
4.1.3	User Support	9/30/94	0% **
	Online Help Text	9/30/94	0% **
	Science Scenarios	9/30/94	0% **
	Hypertext scenarios	9/30/94	0% **
	Mailing Lists	9/30/94	0% **
	Advertising	9/30/94	0% **
	Astro.db - Ingres	1/31/94	0%
	FAQ Page	4/5/94	100%
	WWW Server Statistics	4/4/94	100%
	Write Error Rpt Program	4/1/94	100%
	Modify getstart Program	4/4/94	100%
	User Stats for John N	4/26/94	100%
	Front-line support	9/30/94	1% **
	User Statistics	9/30/94	1% **
	Edit	3/31/94	0% **
	users.tbl	3/31/94	0% **
	readreg prog	3/31/94	0% **
	UI III Workshop	9/30/94	0%
	(CASA not attending)		
	summer AAS meeting	6/3/94	0%
	(Lindhom attending)		
	ASP meeting - Flagstaff	6/30/94	0%
	(Neves attending)		
	ADASS meeting	9/28/94	0%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 May 1994

TEST AND QA

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
	ISM Update	4/8/94	100%
2.5.14.1	SQLserver 2.0	9/30/94	5%
2.5.4.1	Data Dictionary	7/1/94	0%
2.7.3	WAIS Server - on hold	7/31/94	0%
	Coord Conversion Update	4/8/94	100%
2.2.3.1	EOSSERVER - on hold	11/22/93	75%
2.2.4.1	Security Services	11/22/93	0%
2.2.5.1	Secure File Transfer	11/22/93	0%
2.6.3.1	AGRA	9/30/94	25%
2.4.11.1	LRS	4/15/94	0%
2.6.2.1	Skyview Update	9/30/94	20%
2.4.4.1	<i>Einstein</i> Archive	4/7/94	100%
	HEASARC StarTrax	4/1/94	100%
2.4.1.1	Abstract Service	1/11/94	100%
2.4.3.1	NDADS Archive	6/12/95	50%
2.3.1	Log Handling Service	9/30/94	0%
2.3.2	Monitoring Service	9/30/94	0%
2.6.1	2-D Plot Service	9/30/94	0%
2.5.6	QBT Service	9/30/94	0%
	ADS Directory Service	9/30/94	0%
2.2.2.1	RPI/SMS	9/30/94	0%
	Coordinate Stack Service	9/39/94	0%
	Catalogs	9/30/94	16%
	aps_platelist (update)	9/30/94	70%
	agk3 (casa)	4/22/94	100%
	findlist (casa)	4/6/94	100%
	findlist_rem (casa)	4/8/94	100%
	hii (casa)	4/25/94	100%
	interfer (casa)	4/25/94	100%
	openclus (casa)	4/26/94	100%
	ppmn	4/27/94	100%
	ppms (casa)	4/27/94	100%
	selected (casa)	4/27/94	100%
	wds (casa)	4/27/94	100%
	pm (casa)	9/30/94	0%

Approved: _____ G. Eichhorn

Status as of: 1 May 1994

Achievement: _____ T. Snow (CASA)

TEST AND QA (Cont'd)**WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):**

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
	Catalogs (cont'd)		
	binorbit (casa)	9/30/94	0%
	constell_eq1875 (casa)	9/30/94	0%
	constell_eq2000 (casa)	9/30/94	0%
	irs (casa)	9/30/94	0%
	perth_70 (casa)	9/30/94	0%
	perth_75 (casa)	9/30/94	0%
	spbin (casa)	9/30/94	0%
	start25pc (casa)	9/30/94	0%
	saohddm (casa)	9/30/94	0%
	redshift (casa)	5/3/94	100%
	redshift_zdata (casa)	9/30/94	0%
	do (ipac) repl. casa's dbo	4/1/94	100%
	rc3 (ipac or sao?)	9/30/94	0%

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 May 1994

SYSTEM INTEGRATION & MAINTENANCE

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

All tasks are on-going.

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
	CASA rpi's	9/30/94	0%
	CASA traders	9/30/94	0%
	CASA sqlserver	9/30/94	0%
	ADS Bug Fixes	9/30/94	0%
	ADS Integration	9/30/94	0%
	ADS Release Builds	9/30/94	0%
	Service Release Builds	9/30/94	0%
	Services Tar File Tests	9/30/94	0%
	ADS/EOS Bugs DB	9/30/94	0%
	CASA Testsuites	9/30/94	0%
	ADC CDROM Cats	9/30/94	0%

Approved: _____ G. Eichhorn
Achievement: _____ J. Stoner (ESI)

Status as of: 1 May 1994

SYSTEM INTEGRATION

TASKS ACCOMPLISHED:

It should be noted that the core software is changing names from Ellery Open Systems to FastLane.

The primary work at Ellery during April has been to continue support of ADS QA at CASA and the ADS project in general:

- Devin Hooker worked on the TCP/IP dispatcher implementation.
- Clark Fishback worked on updating documentation to reflect changes for the new version of FastLane.
- Randall Gaz performed reviews of the name service specification and code.
- Clark Fishback and Devin Hooker participated in the weekly ADS conference calls.
- Don Roberts reviewed FastLane documentation.
- Project management, reporting and planning support were also done for the ADS by Kyle Habermehl, Lowell Schneider and Jeff Stoner.

Plans for the next two months of May and June are:

- Development activity will continue to replace ANSA/ANSA-trader based EOS.
- Specify requirements and implementation plan for security in the new RPC mechanism.
- Ongoing bug fixes and support to project as needed.
- Participation in discussions of new ADS services.

Approved: _____ G. Eichhorn
Achievement: _____ S. Murray (SAO)

Status as of: 1 May 1994

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Received and processed new STAR ("N") abstracts.
- Recreated the html version of the abstracts for the Mosaic abstract service, to correct for a problem when there was supposed to be no abstract.
- Incorporated note from STI/RECON about the lack of new IAA ("A") abstracts into the Mosaic version of the abstracts service and into the "What's New" page of ADS.

SQL Service:

- Worked on patch for operational SQL server to disable anonymous login for those sites which need user information. The anonymous user id was introduced when the login window was replaced by the ADSUSER environment variable.
- Iterated with development team on design of the new SQL server.
- Began looking at code for the new SQL server to determine what needs to be done to include FITS ascii table support.

Coordinate Conversion Service:

- Responded to user comments about the coordinate conversion service, and made changes based on his recommendations.
- Took out the declination menu (+/-) for Equatorial coords.
- Implemented "return-activated" conversion.
- Changed the epoch menu implementation.

NIST Archive Service:

- Iterated with NIST personnel on GUI and server design.
- Helped update current installation at NIST.

Tell Me About Service:

- Commented on design of TMA service.

ROSAT Archive Service:

- Begun work on a ROSAT Archive service, combining an SQL query to the ROSPUBLIC database with a data request to the NDADS Archive.

Miscellaneous:

- Completed table editor proposal for NASA CAN-OA-94-1.
- Looked into setting up WAIS server for the abstract server.
- Answered user questions about the Abstract Service (both ADS version and Mosaic version).
- Identified a bug in the positional search tool when crossing over the RA=0 position.
- Installed core service patch and announced changes to local users.
- Installed test version of AGRA and forwarded comments to User Support.

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 May 1994

DEVELOPMENT (Cont'd)

CASA

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
2.5.1	Catalog Access	7/1/94	3%
	Add Positional Options	7/1/94	0%
	Sub-service Installation	7/1/94	0%
	SQL Parser in adstoqbeCB	7/1/94	0%
2.5.2	SQLserver 2.0 Integration	7/1/94	0%
	Catalog Docs	7/1/94	10%
	Data Dictionary Builder	7/1/94	10%
2.5.4	Data Dictionary Integration	7/1/94	0%
	FITS I/O	7/1/94	0%
	QBT/Mosaic	7/1/94	0%
2.2.7	Developer's Guide	9/30/94	75%
	Coordination of Efforts	11/22/93	90%
	SQL appendices	9/30/94	66%
	File Transfer	11/22/93	90%
2.4.3	NDADS Archive	9/30/94	80%
	N/A (Client CLite Lib)	11/22/93	95%
	N/A (EOSserver CLite Lib)	11/22/93	95%
	N/A (C Server Body)	11/22/93	95%
	Link to Security Services	11/22/93	0%
2.2.6	Transfer Monitor	11/22/93	84%
	N/A (Client CLite Library)	11/22/93	95%
	N/A (EOSserver CLite Library)	11/22/93	95%
	"FTserver, FTGET Ser Body"	11/22/93	0%
	Link to Security Services	11/22/93	0%
2.2.10	Transfer Monitor II	9/30/94	18%
	Widget	9/30/94	0%
	CLite Library	9/30/94	0%
	C FT Lib Patch Clean Compile	9/30/94	1%
	C FT Lib Patch Root Control	9/30/94	50%
	C FT Lib Patch ADS Logfile	9/30/94	50%
	C FT Lib Patch Testing	9/30/94	10%
	C FT Library Spec Protocol	9/30/94	0%
	C FT Library Replacement	9/30/94	0%
	Link to Security Services	9/30/94	0%
	Spec Distributed Computing	9/30/94	0%
	Impliment Dist Comp Spec	9/30/94	0%
	Help Text	9/30/94	0%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 May 1994

DEVELOPMENT (Cont'd)

CASA (cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
	EOSserver CLite Library	11/22/93	50%
2.6.5	Generic Plot Tool	9/30/94	1%
	Widget	9/30/94	0%
	Client CLite Library	9/30/94	0%
	C Function Library	9/30/94	1%
	IDL Server Body	9/30/94	0%
	SM Server Body	9/30/94	0%
	GKS Server Body	9/30/94	0%
	GNUPLOT Server Body	9/30/94	0%
	XMGR Server Body	9/30/94	10%
	Plot Add-on Service	9/30/94	0%
	Expanded Capabilities	9/30/94	0%
	Value Added Services	9/30/94	0%
	Help Text	9/30/94	0%
2.5.7	Table Calculator	9/30/94	0%
2.7.2	IDL Server	9/30/94	0%
2.4.12	IUE Reprocessed Archive	9/30/94	0%
	CASA IUE Archives - Misc	9/30/94	0%
	Catalog CCGAL Program	9/30/94	5%
	Archive Doc Requirement	4/21/94	5%
	Tell Me About Service	5/27/94	52%
	Install/Configure FreeWAIS	4/12/94	100%
	Index Catalogs html Files	5/6/94	100%
	ADS WAIS Server	4/29/94	100%
	Mosaic/Wais CGI Script	5/3/94	100%
	Create Keyword List	5/27/94	10%
	Keyword Perl Program	5/13/94	0%
2.5.4	Data Dictionary Service	9/30/94	35%
	Beta Tester Doc	5/20/94	0%
2.4.11	LRS System	7/14/94	6%
	New Main Widget	7/14/94	25%
	List Settings Widget	7/14/94	0%
	Table Editor	7/14/94	0%
	FITS Transfer	7/14/94	0%
2.5.3	Text Retrieval	1/31/94	99%
	Cool Star	8/31/94	25%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 May 1994

DEVELOPMENT (Cont'd)

CASA (cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
	Data Organization	8/31/94	50%
	Widget	5/31/94	0%
	Install Service	9/30/94	0%
2.2.9	Core System	9/30/94	89%
	Anonymous Authentication	4/15/94	100%
	ADS Login Menu Option	5/2/94	90%
	New Services Check	4/15/94	100%
	Global Variable Mngmnt	9/30/94	0%
	Global Help Text	9/30/94	0%
	Catalogs	9/30/94	10%
	Subservice Install	9/30/94	10%
	Table Editor	9/30/94	0%
	NDADS Node Support	9/30/94	75%
	HEASARC/GRO Node Support	9/30/94	0%
	APS Node Support	9/30/94	0%
	CASA Node Support (ALL)	9/30/94	90%
	LRS	9/30/94	50%
	CASA Node Support (Neves)	9/30/94	23%
	ADC-CDROM carbon catalog	4/5/94	100%
	ADC-CDROM hd Catalog	4/5/94	100%
	ADC-CDROM mhd1 catalog	4/5/94	100%
	ADC-CDROM mhd2 catalog	4/5/94	100%
	ADC-CDROM mhd3 catalog	4/5/94	100%
	ADC-CDROM mhd4 catalog	4/5/94	100%
	ADC-CDROM parallax catalog	4/8/94	100%
	ADC-CDROM wds_dmsort cat	4/6/94	100%
	ADC-CDROM wds_adssort cat	4/6/94	100%
	ADC-CDROM wds_hdsort cat	4/6/94	100%
	ADC-CDROM wds_nameidx	4/6/94	100%
	ADC-CDROM wds_namesort	4/6/94	100%
	ADC-CDROM wds_pos catalog	4/6/94	100%
	ADC-CDROM acrs1 catalog	4/25/94	100%
	ADC-CDROM acrs2 catalog	4/25/94	100%
	ADC-CDROM esoupp catalog	4/8/94	100%
	ADC-CDROM mcg catalog	4/8/94	100%
	ADC-CDROM lbn catalog	9/30/94	0%
	ADC-CDROM ldn catalog	9/39/94	0%

Approved: _____ G. Eichhorn
 Achievement: _____ J. Good (IPAC)

Status as of: 1 May 1994

OPERATIONS

ADS USER/USAGE STATISTICS:

	IPAC	IUE	PSU	SAO	HEASRC	STSCI	CASA	EUVE	NSSDC	APS
startup :	6	5	2	3	4	0	18	3	5	10
query :	393	33	3	142	109	80	232	6	34	156
schema :	385	32	3	132	102	80	221	6	28	154
retrieve :	5704	851	8	4879	567	763	1718	9	13649	10724
abort :	373	32	3	125	103	77	228	6	27	133
report :	2513	1943	1942	1940	1767	1938	1649	1186	1916	91

- startup* - Gives the number of hard startx ups of the SQLserver at the given node location
- query* - Records how many queries users sent to that particular node.
- schema* - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).
- retrieve* - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.
- abort* - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.
- report* - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

Abstracts

user	logins	queries	short	long	list
1404	4471	31152	292802	23381	13560

- users* - Number of distinct users using the abstract service
- logins* - Number of logins into the abstract service
- queries* - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).
- short* - Number of lines of short abstract information retrieved (authors and titles).
- long* - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

Approved: _____ G. Eichhorn
Achievement: _____ C. Cornuelle (APS)

Status as of: 1 May 1994

SUPPLIERS OF DATA

APS/UMinn

TASKS ACCOMPLISHED:

- A single-query byte limit, so that a single APS POSS Catalog query fail to return more than 45Mb. This limit will be increased in the future as disk space is reassigned, and in response to user needs.
- The APS Catalog APS_PLATELIST has several new fields related to the accuracy of the photometry, as well as a coded comments field. More helpful error messages have also been included.
- More scanned plates continue to be added to the existing database, many in response to specific user requests.
- A new database-production pipeline will be installed by the summer AAS Meeting. This will feature improved galaxy photometry, improved astrometry, and will be used to create future ADS Catalogs. Work is also proceeding to improve the speed of the APS DBM, StarBase.

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 May 1994

SUPPLIERS OF DATA (Cont'd)

CASA

TASKS ACCOMPLISHED:

- More of the ADC CDrom catalogs are becoming available through the CASA node. See list of catalogs under the QA section for a complete update.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 May 1994

Achievement: _____ B. Stroozas (CEA/Berkeley)

SUPPLIERS OF DATA (Cont'd)

CEA

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 May 1994

Achievement: _____ S. Drake (HEASARC/GSFC)

SUPPLIERS OF DATA (Cont'd)

HEASARC/GSFC

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Mazzeella (IPAC)

Status as of: 1 May 1994

SUPPLIERS OF DATA (Cont'd)

IPAC/CALTECH

TASKS ACCOMPLISHED:

- Nothing to report.

Approved: _____ G. Eichhorn
Achievement: _____ P. Lawton (IUE/GSFC)

Status as of: 1 May 1994

SUPPLIERS OF DATA (Cont'd)

IUE/GSFC

TASKS ACCOMPLISHED:

- Installed new user services and patch for userid change.

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- The primary IUE database maintained by the project is being modified so that all coordinates will be stored in decimal degrees rather than radians. This will help simplify the process of converting the fields for use by the ADS.

ADS User/Usage Statistics:

April

- query	33	- startup	5
- retrieve	851	- withdraw	15
- schema	32	- shutdown	5
- status	32		
- abort	32	- query making users	8
- report	1943	- total users	19
- export	15	- new users	5
- export_failure	0		

Approved: _____ G. Eichhorn
Achievement: _____ W. Martin (NIST)

Status as of: 1 May 1994

SUPPLIERS OF DATA (Cont'd)

NIST

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Provided NIST's requirements to SAO for the Graphical User Interface.
- Tested preliminary NIST Archive Service GUI, recommended changes.
- Continued enhancements to server that will access the NIST database.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Nousek (PSU)

Status as of: 1 May 1994

SUPPLIERS OF DATA (Cont'd)

PSU

TASKS ACCOMPLISHED:

- Nothing to report.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ M. Garcia(SAO)

Status as of: 1 May 1994

SUPPLIERS OF DATA (Cont'd)

SAO

TASKS ACCOMPLISHED:

- Nothing to report.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ A. Farris (STScI)

Status as of: 1 May 1994

SUPPLIERS OF DATA (Cont'd)

STScI

TASKS ACCOMPLISHED:

- Nothing to report.

ASTROPHYSICS DATA SYSTEM

NASA Grant NCCW-0024

Monthly Progress Report No. 27

for May 1994

Prepared for

**National Aeronautics and Space Administration
Astrophysics Division - Code SZ**

**Smithsonian Institution
Astrophysical Observatory
Cambridge, Massachusetts 02138**

**The Smithsonian Astrophysical Observatory
is a member of the
Harvard-Smithsonian Center for Astrophysics**

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 June 1994

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SAO/EINSTEIN:

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STScI:

A. Farris

IPAC/ADS:

J. Good

U. Minn:

C. Cornuelle

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 June 1994

SUMMARY

We have exceeded 2000 registered users in May. With an estimated 10,000 or so total astronomers in the world, this is quite impressive.

Work on the "Tell Me About ..." service is continuing. We are currently aiming for a release in the fall.

The new networking software from Ellery Systems was released. CASA is currently evaluating the product.

The ADS was again represented with a demonstration booth at the AAS meeting in Minneapolis. Interest was high, we registered about 15 users during the meeting.

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 June 1994

ADMINISTRATIVE

TASKS ACCOMPLISHED:

Discussions with NCSA about a cooperation between MOSAIC development group and the ADS are continuing. We are planning a meeting between these groups in late June.

Preparations for the AAS meeting in Minneapolis were completed. The cooperation with the APS group of the University of Minnesota for equipping the booth worked very well. We had two Sun3 workstations set-up as terminal servers for a Sparc 10 running ADS when the meeting begun.

We had two poster papers in the meeting, one about the abstract service and one about the World-Wide Web catalog service. During the meeting catalogs were brought on-line in the WWW catalog service.

A white paper about the ADS, to be given to the SOMOWG, was prepared and sent to NASA.

We now have permission from the AAS to use the bitmapped journal articles that the STELAR project produced. We are currently talking with NSSDC to find the best way to get the approximately 10 Gbytes of images transferred to SAO.

The next 2 pages show the login and usage statistics. The number of logins and users for the ADS seem to stay relatively constant. The number of users and logins of the abstract service too seem to increase less after the dramatic rise with the release of the MOSAIC version. The number of queries and retrieved data sets however, is still rising dramatically. This is mainly due to a very strong use of the abstract service through the easy and fast MOSAIC interface.

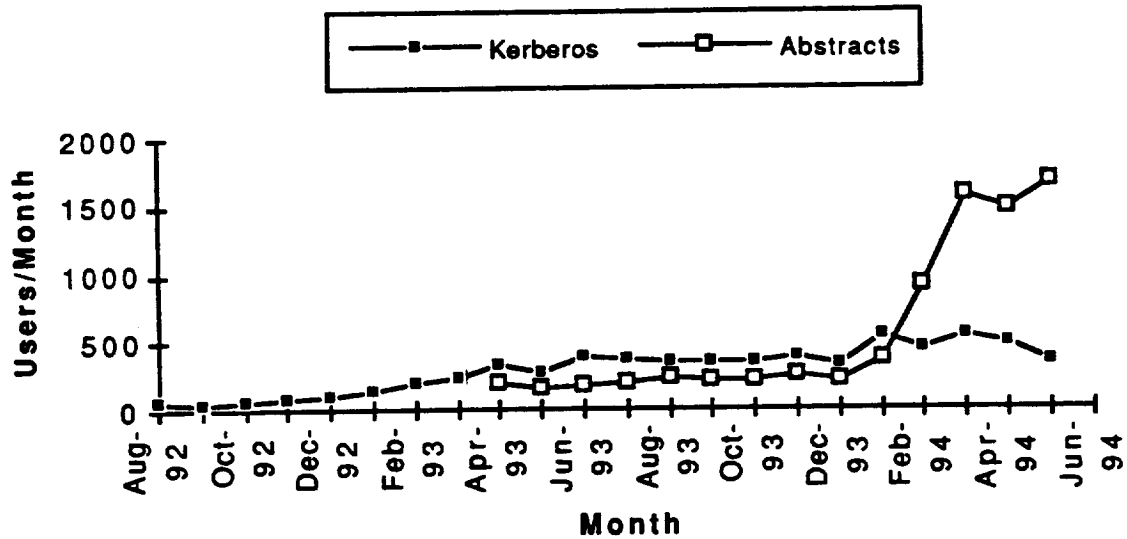
SAO

ASTROPHYSICS DATA SYSTEM

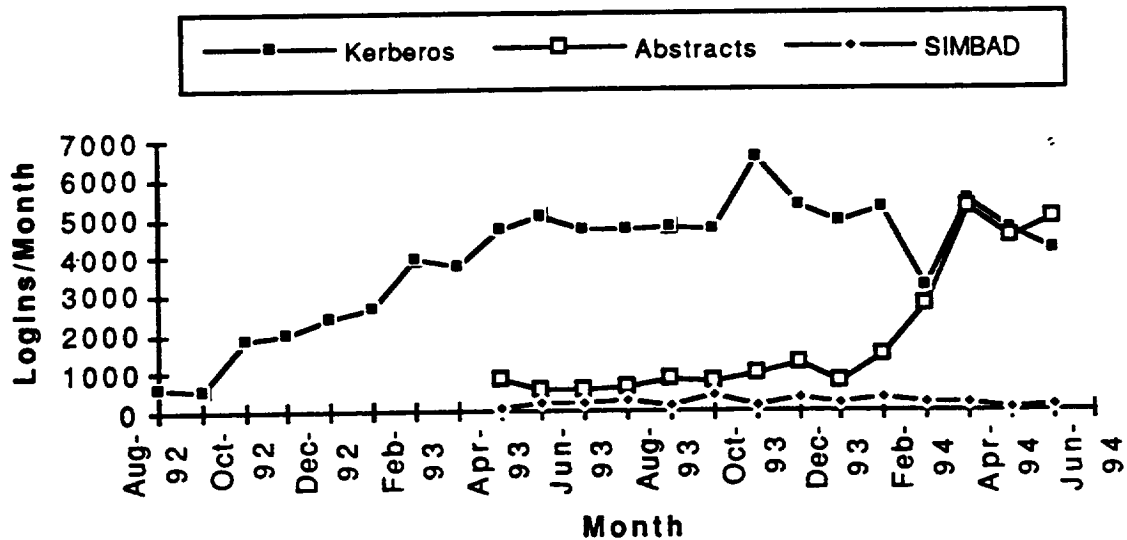
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 June, 1994

Number of Distinct Users



Number of Logins



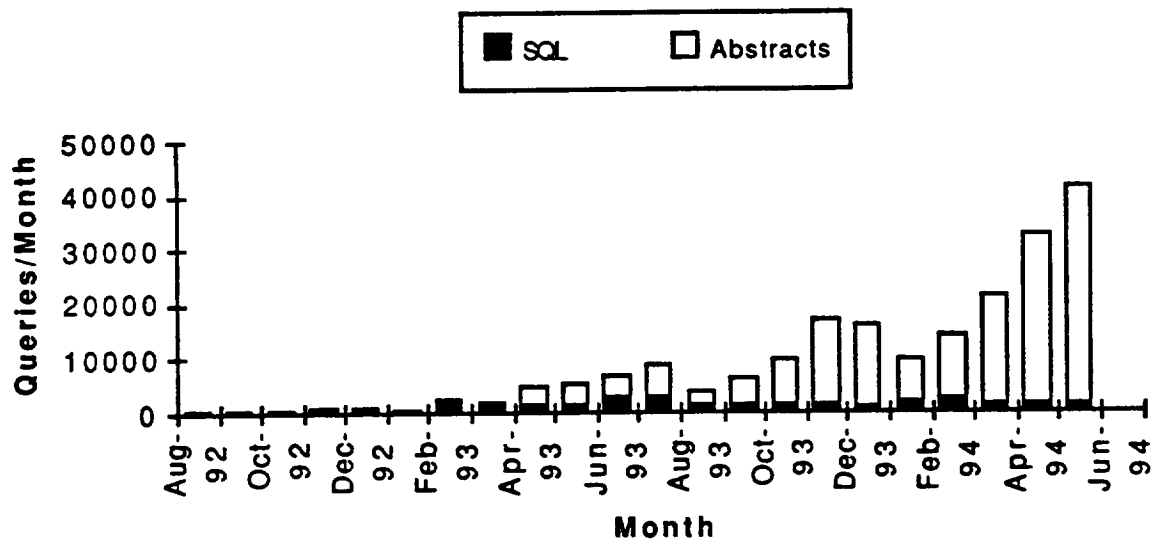
SAO

ASTROPHYSICS DATA SYSTEM

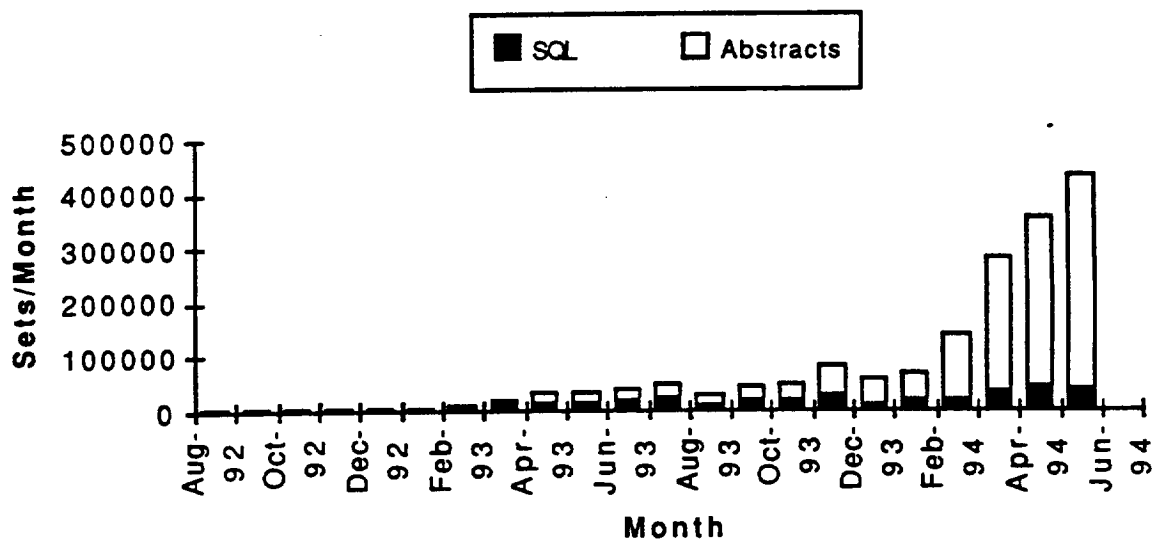
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 June, 1994

Number of Queries



Number of Retrieved Data Sets



Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING

TASKS ACCOMPLISHED:

The design and development of the TMA-related services is well underway. No major hurdles remain, though the development and testing will take some time. Specific detailed schedules have not yet been developed but the current estimate is for completion of TMA is for August 31. One new service (WBS #2.2.11) and a documentation task (WBS #2.2.12) have been added as infrastructure necessary for TMA.

Detailed Status

Listed below are the development tasks currently being undertaken by the ADS Project. Assignments (or tentative assignments) are shown by institution and by responsible party in the status section.

2 System Development

2.2 Infrastructure

- | | | |
|--------|------------------------|---|
| 2.2.1 | Core ADS System | -- User interface, installation structure |
| 2.2.2 | Remote Communications | -- Infrastructure for distributed computing |
| 2.2.3 | Remote Executive | -- EOS in server mode (for archive access) |
| 2.2.4 | Security Services | -- Authorization checking |
| 2.2.5 | Secure File Transfer | -- General mechanism for transferring files |
| 2.2.6 | Transfer Monitor | -- Coordinate file transfers for all srves |
| 2.2.7 | Developer's Guide | -- How to build and operate ADS services |
| 2.2.8 | CUI | -- Character-terminal user interface |
| 2.2.9 | Core ADS Upgrade | -- Upgrading the ADS Core for robustness |
| 2.2.10 | File Transfer Upgrades | -- Upgrading the file transfer for efficiency |
| 2.2.11 | Parameter Service | -- Mechanism for passing startup data |
| 2.2.12 | WAIS Document DB | -- Set of documents in support of TMA |

2.3 Operations / Management Tools

- | | | |
|-------|-----------------------|--|
| 2.3.1 | Log Handling | -- Statistics and reporting |
| 2.3.2 | Monitoring | -- Service availability, usage |
| 2.3.3 | Bug Server | -- Bug report submission |
| 2.3.4 | Authenticated FTP | -- FTP server with KERBEROS authentication |
| 2.3.5 | Mission Planning | -- Generic mission planning tools |
| 2.3.6 | DB Validation | -- Automated validation of data sets |
| 2.3.7 | QA Test Suites | -- Procedures for checking services |
| 2.3.8 | Data Dictionary Tools | -- Maintenance procedures for nodes |

Approved: _____ G. Eichhorn
 Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

TASKS ACCOMPLISHED (cont'd):

2.4 Archive Access

- 2.4.1 Abstract Server -- Access to abstract database
- 2.4.2 NED Server -- Interface to NED database
- 2.4.3 NDADS Archive -- Access to all the ADC data at NSSDC
- 2.4.4 EINSTEIN Archive -- Access to *Einstein* satellite data
- 2.4.5 IPAC Plate Archive -- Access to infrared ISSA plates
- 2.4.6 SIMBAD -- General interface to SIMBAD
 - 2.4.6.1 SIMBAD Upgrade
- 2.4.7 IUE Archive -- Access to raw and processed IUE data
- 2.4.8 UMinn POSS1 Data -- Access to the digitized POSS1 plates
- 2.4.9 Abstract Svc Upgrade -- Upgrade and possible port to HP
- 2.4.10 Data Compression -- To save bandwidth during file transfer
- 2.4.11 AAVSO Archive -- Access to variable star database
- 2.4.12 NIST Archive -- Spectral line database
- 2.4.13 ROSAT Archive -- Access to ROSAT metadata (NDADS has data)
- 2.4.14 Carbon Star Spectra -- Spectral data for a set of carbon stars
- 2.4.15 PCyg Database -- IUE spectra of early-type stars

2.5 Catalogs and Tables

- 2.5.1 Catalog Access -- General access to catalog data
 - 2.5.1.1 MOSAIC Integration
 - 2.5.1.2 SQLserver Integration
 - 2.5.1.3 Coordinate Conversion Integration
 - 2.5.1.4 Data Dictionary Integration
 - 2.5.1.5 Positional Query Integration
 - 2.5.1.6 WAIS Integration
 - 2.5.1.7 Query Fan-Out Integration
- 2.5.2 SQL Server -- Updated service to RDBMSs
 - 2.5.2.1 SQLserver Installation
 - 2.5.2.2 Data Dictionary Installation
 - 2.5.2.3 FITS Integration
 - 2.5.2.4 Dynamic Coordinate Handling
- 2.5.3 Documentation Server -- Distributed access to document files
- 2.5.4 Data Dictionary -- Information on catalog units and formats
- 2.5.5 Coordinate Handling -- Both as service and policy
- 2.5.6 QBT -- Query by Table (simpler catalog query)
- 2.5.7 Table Calculator -- Simplified table manipulation
- 2.5.8 Proximity Join -- Joining tables on positions

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

TASKS ACCOMPLISHED (cont'd)

- | | | |
|------------|----------------------------|--|
| 2.5.9 | Correlation Tools | -- Comparing of tables from different catalogs |
| 2.5.10 | Query Fan-Out | -- Querying multiple catalogs at once |
| 2.5.11 | Natural Language | -- Using natural language for data searches |
| 2.5.12 | Dynamic Catalog Mgmt | -- Updating of catalogs on the fly |
| 2.5.13 | Subservice Install | -- Hooks for future catalog access functions |
| 2.5.14 | Query Manager | -- Keep track of outstanding queries |
| 2.5.15 | Table Handling | -- Stand-alone DBMS/Spreadsheet functionality |
|
 | | |
| <u>2.6</u> | <u>Visualization</u> | |
| 2.6.1 | Plot Tool | -- XY plotting |
| 2.6.2 | Skyview | -- Image display |
| 2.6.3 | AGRA | -- Sky mapping |
| 2.6.4 | SAOimage | -- Image display |
|
 | | |
| <u>2.7</u> | <u>Packages Interfaces</u> | |
| 2.7.1 | IRAF Server | -- General interface to IRAF |
| 2.7.2 | IDL Server | -- General interface to IDL |
| 2.7.3 | WAIS Server | -- WAIS client as ADS service |
|
 | | |
| <u>2.8</u> | <u>Science Integration</u> | |
| 2.8.1 | TMA Service | -- "Tell Me About ..." interface |
| 2.8.2 | SIMBAD/TMA I/F | -- Patch to the SIMBAD svc for TMA access |
| 2.8.3 | NED/TMA I/F | -- Patch to the NED svc for TMA access |
| 2.8.4 | NDADS/TMA I/F | -- Patch to the NDADS svc for TMA access |
| 2.8.5 | EINSTEIN/TMA I/F | -- Patch to the <i>Einstein</i> svc for TMA access |
| 2.8.6 | ISSA/TMA I/F | -- Patch to the ISSA svc for TMA access |
| 2.8.7 | Abstract/TMA I/F | -- Patch to the Abstract svc for TMA access |
| 2.8.8 | Skyview/TMA I/F | -- Patch to the Skyview svc for TMA access |
| 2.8.9 | AGRA/TMA I/F | -- Patch to the AGRA svc for TMA access |
| 2.8.10 | SAOimage/TMA I/F | -- Patch to the SAOimage svc for TMA access |
| 2.8.11 | Carbon Star/TMA I/F | -- Patch to the Carbon Star Svc for TMA access |
| 2.8.12 | Pcyg/TMA I/F | -- Patch to the Pcyg Svc for TMA access |

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

2.2.1 Core ADS System

Michelle Neves (CASA)

By "Core System" we mean the organization, on the client side, of user services and UI functionality. This is distinct from the maintenance and organization of remote services and their operation. The goal here is to provide an environment where new or updated services can easily be added or replaced by a knowledgeable user. This work is crucial to get us into a mode where services can be incrementally added or changed.

STATUS: The first version of this is in the field and has been very well received.

2.2.2 Remote Communications

Devin Hooker (ESI)

The name of this task has been changed since the actual mechanism to be used has been redesigned and is no longer encapsulated in the programs RPI and SMS. However, the new code has the same basic function, which is to control communications to any ADS services running on a particular machine. This functionality is the core of the distributed computing capability used by ADS.

This package provides service registration and location functionality and some aspects of system security. The ADS Project decided to take this step in response to the poor operability of the current ANSA Trader code.

STATUS: While this is not an ADS-funded effort, it is critical to the Project and is therefore, listed as a task here. A limited first release of the executables for this service has been made to CASA, though only for HP architectures.

2.2.3 Remote Executive

(ESI ?)

This task has been renamed to indicate a more general scope.

There are several reasons for needing a general executive function which can be run remotely. In order to control general data access services (*e.g.*, NDADS) which can take hours or even days to retrieve results, we plan to use an EOS server. Also, there are times when the most effective way to handle a user's request is by fanning-out the processing to several machines or setting up a hierarchy of processors.

This code will probably be very similar to the executive process running directly under user control on the client machine.

STATUS: Problems that arose in testing the EOSserver from ESI have lead to abandoning that approach for the time being. As resources permit, we hope to revive this task at some point in the future.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.2.4 Security Services

Steven Lo (IPAC)

ADS security is based on the KERBEROS package developed as part of Project Athena at MIT. The ADS-developed tools on top of this system allow for user authentication at the service level and for completely secure communication of data.

This functionality needs to be folded into all aspects of the ADS system and provided as a simple set of library tools for service builders.

STATUS: First generation toolkit delivered for testing. Maintenance and refinement on-going as time permits.

2.2.5 Secure File Transfer

Steve Lo (IPAC)

The file transfer service pair (send/receive) currently in use is being rewritten to enhance its efficiency (Task 2.2.10). Full optional security checking will be added to this version.

STATUS: The new FT service pair is currently in development. Security will be added to this at an appropriate time.

2.2.6 Transfer Monitor

Gregg Allison (CASA)

Since many services invoke file transfers at one time or another, it makes sense to coordinate these requests through one service than to have separate monitor functionality for each service.

STATUS: Done. It is currently unclear whether a second generation of this service will be needed to accommodate the updated FT service (Task 2.2.10).

2.2.7 Developer's Guide

Alice Bertini (CASA)

The real power of the ADS is that it allows data/processing service owners to turn their product into ADS services simply and quickly. In order to facilitate this while still maintaining some level of uniformity to interaction look-and-feel, we must establish and publish guidelines and procedures for new developers to follow.

STATUS: Complete and on-line. Updating of this document is an on-going LOE task.

2.2.8 CUI

Alice Bertini (CASA)

There is at present no good way for users with character terminals to access ADS functionality. A limited subset interface to such things as archive queries and catalog requests could be provided if there is sufficient interest.

STATUS: Design work for this task has not been scheduled.

2.2.9 Core ADS Upgrade

Michelle Neves (CASA)

Several refinements to the Core ADS system have been proposed which would further enhance the user's ability to maintain and update their installation.

STATUS: Work about 30% done.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.2.10 File Transfer Upgrades

Gregg Allison (CASA)

The current File Transfer service is based on the FTP protocols which were defined originally to work on slow and unstable networks. They are, in consequence, quite slow.

The purpose of this task is to rewrite this service to maximize efficiency.

STATUS: Design work begun.

2.2.11 Parameter Service

John Good (IPAC)

It is often the case that services need to be started with a large number of parameters already set or that a large number of parameters need to be reset (or restored) at one time during execution. The simplest mechanism for doing this is a standard parameter file/loading mechanism.

This functionality is specifically needed for the new TMA service.

STATUS: Design reviewed; development begun.

2.2.12 WAIS Document DB

Jacque Anderson (CASA)

The TMA service will utilize existing database and service documentation to locate pertinent data for further study. This task is to collect and/or build the documents and WAIS indices necessary for this functionality.

This functionality is specifically needed for the new TMA service.

STATUS: Catalog documents and basic index built. Service documents and additional indices in development.

2.3.1 Log Handling

Jing Li (IPAC)

Currently, our ability to determine system usage as a function of time or user is severely constrained by the format of log files and the data they contain. A generic log handling service (based on the Remote Executive and Table Handling services) will provide a wide range of statistical measures of system usage.

STATUS: An initial version of this code, based on EOS, has been developed. Fully functional remote service code is dependent on development of the Remote Executive and Table Handling services.

2.3.2 Monitoring

Jing Li (IPAC)

Part of the proposed enhancements to the Remote Communications system software are the hooks to allow Operations to reliably monitor and control services.

STATUS: The client tools to do this will be designed and built as soon as this functionality in Remote Communications system is available.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.3.3 Bug Server

Jacque Anderson (CASA)

The Bug Server would be a simple local server and widget to help the user construct reports and mail them to User Support.

STATUS: Initial design complete. Development not yet begun.

2.3.4 Authenticated FTP

Steven Lo (IPAC)

A version of the standard FTP daemon which uses KERBEROS authentication to the ADS user database to confirm the right to download system components.

STATUS: Done.

2.3.5 Mission Planning

(SAO ?)

One long-term objective being considered by the ADS Project is the development of distributed mission planning and mission operations tools to support many missions. A preliminary study has shown that many of the mission planning tools currently in use have a core of similar functions that are "re-invented" by each mission center. In addition, the interface of mission planning tools with the user community varies with each mission, requiring that scientists learn several slightly different systems. The ADS can be helpful in supplying missions with a library of planning tools, and a standard user interface. This will allow mission resources to be concentrated on mission specific requirements. It offers the user community a simpler mechanism for developing observation requests in response to NASA AOs, particularly through the use of electronic preparation and submission of these requests.

STATUS: Design work not yet scheduled.

2.3.6 DB Validation

(CASA)

Automated procedures to confirm that the data retrieved via ADS are not different from the original data source. Test and QA along with the Project Office make an initial verification of data when it is first made available via ADS. In order to assure that changes to these data are not introduced by the system, regular sampling of the databases is made and compared with reference results.

STATUS: Done for first release of ADS. No further work currently planned.

2.3.7 QA Test Suites

(CASA)

As part of Quality Assurance, CASA will maintain and update a regression testbed of information and a suite of procedures that test ADS functionality. This is distinct from the operational monitoring required of Operations and is for a quite different purpose: spot-checking and regression analysis rather than real-time monitoring.

STATUS: On-going.

Approved: _____, Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

23.8 Data Dictionary Tools

Carolyn Stern Grant (SAO)

With the new SQLserver/Catalog Access, ADS nodes will be making much more use of Data Dictionaries (tables defining the contents of catalogs; which columns are positions, what formats to use for reporting, etc.). Consequently, there is need for a set of utilities which will aid the nodes in maintaining these tables.

STATUS: Design not yet begun.

2.4.1 Abstract Server

Guenther Eichhorn / Carolyn Stern Grant (SAO)

The Abstract Server provided remote access to a database of abstracts culled from the Astrophysics literature by NASA RECON.

STATUS: Done and in operation.

2.4.2 NED Server

John Good (IPAC)

The NED database contains a large amount of data about extragalactic sources, including basic data on positions and fluxes, abstracts and references, etc. The initial ADS interface, at the request of the NED project, has been limited to accessing basic name and positional information.

In the longer term, many people have expressed a desire for more of the NED functionality beyond the basic name/position resolution currently offered. It is unclear whether this should be an ADS task or left to the NED project.

STATUS: Done and in operation.

2.4.3 NDADS Archive

Gregg Allison (CASA)

The NDADS server provides raw data archive access to the astronomical holdings at NSSDC. Metadata defining the contents of this archive are in short supply, however, and would greatly enhance the value of the data.

STATUS: Done and in operation.

2.4.4 EINSTEIN Archive

(SAO)

The *Einstein* archive server provides metadata tables as well as real data tables and images of *Einstein* data. In structure this service is similar to the NDADS server, and some of the same functionality has been reused.

STATUS: Done and in operation.

2.4.5 IPAC Plate Archive

John Good (IPAC)

IPAC is putting on-line all of the ISSA infrared sky images which cover the whole sky in a regular pattern. This service allows a user to request an image or part of an image centered on a particular sky position.

STATUS: Done and in operation.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.4.6 SIMBAD Server

Carolyn Stern Grant (SAO)

The SIMBAD database contains a large amount of data about galactic sources (mostly stellar), including basic data on positions and fluxes, abstracts and references, etc.

STATUS: Done and in operation. Task 2.4.6.1 is a follow-on.

2.4.6.1 SIMBAD Server Upgrade

Strasbourg has released new SIMBAD interface routines. The ADS service needs to be updated to use these.

STATUS: Design not yet begun.

2.4.7 IUE Archive

(CASA ?)

IUE data is available through the NDADS service, but there is still a need for a metadata search capability to help the user locate the correct data sets to request.

STATUS: Design not yet begun.

2.4.8 UMinn POSS1 Data

(IPAC ?)

The University of Minnesota has scanned the POSS-1 plates and created a database of sources detected. This data can and will be accessed through a standard SQLserver. The project will, if necessary, lend some assistance to UMinn in setting this up since this is a uniquely valuable resource for the community.

STATUS: Preliminary design discussions have been held but no work is yet assigned.

2.4.9 Abstract Svc Upgrade

(SAO)

The Abstract Server, while quite successful and capable, was a venture into new territory and will certainly need updating as we gain experience. In addition, it has been proposed to migrate the server to a faster platform for added throughput.

STATUS: Design has not begun.

2.4.10 Data Compression

(SAO ?)

Determine the feasibility and usefulness of data compression for bulk data transfer. If the study determines that data compression would be useful, this task would implement data compression for large-volume data.

STATUS: Study has not begun.

2.4.11 AAVSO Archive

Carolyn Stern Grant (SAO)

The American Association of Variable Star Observers (AAVSO) has the oldest and most complete set of light curves for variable stars. The database for this archive will be mounted at SAO and updated regularly.

STATUS: In development.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.4.12 NIST Archive

Carolyn Stern Grant (SAO)

The National Institute for Standards and Technology (NIST) maintains a database of spectral line strengths for a large (and growing) number of atomic and isotopic species. Access to this service will be through NIST computers.

STATUS: In development.

2.4.13 ROSAT Archive

Carolyn Stern Grant (SAO)

Use of the ROSAT metadata tables give us a mechanism for determining which ROSAT data items to request from the NDADS service. This is a good example of how layering of services increases the value of the sum.

STATUS: In development.

2.4.14 Carbon Star Spectra

John Good (IPAC)

A researcher at NRAO (Cecelia Barnbaum) wishes to make a small database of carbon star spectra available. This service aids the user in selecting which star and which spectral region and then uses the file transfer tool to copy the data.

STATUS: Done and in operation.

2.4.15 PCyg Database

Doug Lindholm (CASA)

Access to an archive of IUE spectra of early-type stars. The data is transferred in the form of FITS files.

STATUS: Done and in operation.

2.5.1 Catalog Access

Alice Bertini / Michelle Neves (CASA)

The current catalog access interface distributed with the ADS client was the first service built and makes use of the first generation SQLserver and catalog documents that must be distributed with the system. As is typical of such endeavors, it suffers from learning curve problems.

In migrating to the new SQL Server and Documentation Services, we must also update the integrated Catalog Access environment. We plan to make use of this opportunity to add some functionality to handle casting of coordinate from one catalog representation to another (a "Data Dictionary" mechanism). This additional functionality is considered critical by our user community and should greatly enhance catalog interoperability.

STATUS: This task has been subdivided into subtasks 2.5.1.1 through 2.5.1.7.

2.5.1.1 MOSAIC Integration

Integrate the MOSAIC documentation server (Task 2.5.3) into the system in the special case of ADS catalog documentation handling.

STATUS: Done and in operation.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.1.4 Data Dictionary Integration

Data Dictionaries provide a convenient way for specifying how data should be interpreted and formatted when extracted from a DBMS table. The purpose of this task is to determine how best to ensure that this functionality is provided in a uniform way across the ADS.

STATUS: Work started.

2.5.1.5 Positional Query Integration

The initial ADS catalog query mechanisms were built on the use of generalized SQL requests to DBMSs whereas the bulk of user requests are for area searches around specific sources or locations. The purpose of this task is to build a general "search-in-a-cone" interface to satisfy the need for these simpler requests.

STATUS: Work started.

2.5.1.6 WAIS Integration

One of the central functions of the TMA service (Task 2.8.1) will be the ability to determine from limited subject-matter input which datasets to search. We plan to build this functionality on top of a set of WAIS servers (Task 2.7.3).

STATUS: Information content definition in progress.

2.5.1.7 Query Fan-Out Integration

As part of the TMA service (Task 2.8.1), we will be setting up a set of catalog queries to be sent out simultaneously to several servers. This ability needs to be built into the general Catalog Access tool and coordinated with other queries (through the Query Manager; Task 2.5.14).

STATUS: Work begun.

2.5.2 SQL Server

Alberto Accomazzi / Carolyn Stern Grant (SAO)

With the update to the distributed processing architecture that is currently being tested, the old SQL server access to catalog databases needed to be updated as well. In particular, support for the new service access architecture and for FITS data transfer.

The basis for this service was developed at ESI and has been delivered. Several upgrades are planned before this service is put to use.

STATUS: This task has been subdivided into subtasks 2.5.2.1 through 2.5.2.4.

2.5.2.1 SQLserver Installation

The SQLserver and associated tools constitute a large and important service package. In addition, specific support will be available for several optional DBMS systems. Packaging of this service for installation and operation is therefore, a task in itself.

STATUS: Work not yet begun.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.2.2 Data Dictionary Installation

The Data Dictionary work done under Task 2.5.4 must be integrated into the SQLserver to allow it to correctly format output and identify which columns represent which coordinates.

STATUS: Work not yet begun.

2.5.2.3 FITS Integration

One of the modes in which the SQLserver will return data is as a FITS table file copied as a file to the user's machine. This table file must contain all the information necessary for the user to import it into existing reduction packages.

STATUS: Work not yet begun.

2.5.2.4 Dynamic Coordinate Handling

With the Data Dictionary and Coordinate Conversion utilities in place, the SQLserver should be able to provide functionality above and beyond simple SQL request handling. Specifically, requests for information on a region can be submitted in any coordinate system and converted on input and data coordinate information can be converted to any coordinate system on output.

STATUS: Work not yet begun.

2.5.3 Documentation Server

Michelle Neves (CASA)

The DOCserver is meant to provide a standard mechanism for users to obtain textual data from any server site. This will include timestamp checking to allow for dynamic updating so that we can be sure that all users are seeing the same documentation.

This functionality is critical to get us out of the mode of distributing documentation on all the catalogs (and therefore requiring massive system releases).

This service makes use of an existing document handling system called MOSAIC for most of its functionality.

STATUS: Done and in operation. Discussion is underway with NCSA (developers of MOSAIC) concerning collaborative efforts to better merge our systems' functionality.

2.5.4 Data Dictionary

Alice Bertini (CASA)

Intercomparing catalogs is usually a matter of checking for positional coincidence. Since existing catalogs currently use a variety of coordinate naming and representation schemes, it is necessary that we have some mechanism for determining this information on a catalog-by-catalog basis. The simplest way to do this is with a standard DBMS "data dictionary" approach. This task is to provide the mechanisms to implement a data dictionary and to provide the hooks for the catalog access system to make use of it.

In addition, Data Dictionaries provide a mechanism for specifying output report formats.

STATUS: In development.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.5 Coordinate Handling

Carolyn Stern Grant (SAO)

Since coordinates play such a pivotal role in astronomy, we have found it necessary to provide a consistent and uniform set of coordinate handling tools for ADS users and developers. These basic tools will be used extensively, not just by ADS for its internal development but by potential service providers as well.

STATUS: Done and in operation.

2.5.6 QBT

(SAO)

The current Query-By-Example (QBE) functionality in ADS has been found to be cumbersome for most applications and at the request of our users we are planning a more user-friendly interface that uses a more compact, tabular form. This Query-By-Table (QBT) should greatly improve the usability of the current Catalog Access but the effort currently has low priority since it results in no new basic functionality.

STATUS: Initial design complete. Final design effort not yet scheduled.

2.5.7 Table Calculator

Gregg Allison? (CASA)

There are many functions that scientists want to perform on tabular data that are not typically found in commercial DBMS software, nor is the interface available in these environments flexible enough for the kind of detailed analysis that scientists need to do. With the functionality already available in ADS, it should be straightforward to provide better tabular analysis tools.

STATUS: Design not yet scheduled.

2.5.8 Proximity Join

? (SAO ?)

The primary mode that astronomers use in comparing tables of sky objects is to check the proximity on the sky of sources. This function is not currently supplied by commercial DBMSs (in fact, is at odds with the standard relational model which only deals with "equi-joins"). This task would be to provide a mechanism for "joining" two tables on the basis of the proximity of two objects in it.

STATUS: Design not yet scheduled.

2.5.9 Correlation Tools

? (SAO ?)

The basic ADS system contains a simple correlation function which compares catalog tables on the basis of positional coincidence. Other correlation functions based on source properties, classifications, names, etc., are possible. Tools for generating these correlations will be developed and added to the system.

STATUS: Design not yet scheduled.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.10 Query Fan-Out ? (SAO ?)

It is often desirable to use the results of a query as the basis of follow-up queries to multiple catalogs for multiple objects. The Fan-out tool will provide a GUI widget to create the multiple follow-up queries and to collect the results in a single response.

STATUS: Subsumed by Task 2.5.1.7.

2.5.11 Natural Language ? (SAO ?)

Determine the feasibility of using natural language queries for data retrieval.

STATUS: Design not yet scheduled.

2.5.12 Dynamic Catalog Mgmt ? (SAO ?)

Implement the dynamic addition and removal of catalogs. In ADS 2.0 the catalogs are hardcoded in the user release. With the dynamic catalog management, new catalogs can be brought on-line without requiring a new user release.

STATUS: Superseded by the work on Catalog Access and Documentation Service.

2.5.13 Subservice Install Michelle Neves (CASA)

The ADS as a whole has the ability to add new services. This concept has to be extended down into the services since many of these are themselves dynamic collections of smaller pieces. This is especially true of the catalog access service, but the model developed here should be general.

STATUS: Design work complete.

2.5.14 Query Manager ?

The original SQLserver/Catalog Access system had as one component a Query Manger. This component was responsible for keeping the user apprised of the status of all outstanding queries.

With the new Catalog Access system, we will need to update (or rewrite) this function, possibly building on our experience with the File Transfer monitor.

STATUS: Not yet begun.

2.5.15 Table Handling ?

In the current ADS system, the handling of tables is integrated directly into the Executive process (EOS). This causes several problems, the greatest of which are subsequent slowness of the program as an Executive and difficulty in using table handling functions from within other services.

The purpose of this task is to provide table handling functionality in a stand-alone mode.

STATUS: Not yet begun.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.6.1 Plot Tool

Gregg Allison (CASA)

The current plot tool distributed with the system is based on a prototype IDL service developed at CASA and requires IDL (either local or remote) to run. A small amount of fine tuning of this functionality is warranted, but the service is essentially done.

Several preliminary studies have been done on integrating in existing portable graphics packages so we can offer software to people that they can run on their own machines.

STATUS: Pieces have been delivered to CASA. Development and integration there has not yet begun.

2.6.2 Skyview

John Good (IPAC)

Skyview is a program developed at IPAC for display and analysis of astronomical images in various formats. This work is funded by IPAC and has no direct relationship to ADS or funding by it.

STATUS: Done and distributed.

2.6.3 AGRA

Jing Li (IPAC)

This local service is self-contained code for turning coordinate tables into sky maps (various projections). The development has been slow since this is not a high priority item. This service is designed to allow easy use as either an ADS server body or a stand-alone program and is integrated with both ADS services which return positional tables (NED, SIMBAD, Catalog Access) and with image display services (providing coordinate, point source, and area overlays).

STATUS: QA'd and delivered to CASA for final test.

2.6.4 SAOimage

Carolyn Stern Grant (SAO)

SAOimage is an image display program widely used in the astronomical community, partly due to its links to the IRAF package. SAO has undertaken to build an ADS interface themselves, so the only Project task is to QA it.

STATUS: Done and distributed.

2.7.1 IRAF Server

? (SAO ?)

The goal of IRAF was to provide a set of data processing and analysis services. This meshes extremely well with the ADS functionality to provide distributed access to such services. In addition, the interfaces of the two systems are constructed in such a way as to allow melding of the systems with minimal impact on either.

STATUS: No work yet planned.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.7.2 IDL Server ? (CASA ?)

IDL is widely used in the astrophysical community for visualization and analysis of local data sets. Combining this functionality with ADS should produce a general distributed data processing environment of great power.

STATUS: No work yet planned.

2.7.3 WAIS Server Jing Li (IPAC)

WAIS provides distributed access to a number of textual databases around the country. Rather than replicating this functionality, it makes sense for the ADS to tap into the existing services. The simplest way to do this is to create a custom WAIS client that would run as a local ADS service. Not only do we then have access to all WAIS functionality, but we add the value of the ADS GUI interface and additional data processing tools to WAIS.

STATUS: No work yet planned though this may follow on closely to the MOSAIC Documentation Server work that is on-going.

2.8.1 TMA Service John Good / Jing Li (IPAC)

The number one request of our users is for a simple way to request information on a specific source: "What can you tell me about M31?" In response to this, the ADS Project is initiating a large effort to tie the various tools in the system into a "Tell Me About ..." (TMA) service.

This task is to provide the client-side interface and integration necessary to tie the rest of the services together.

STATUS: Design phase initiated.

2.8.2 SIMBAD/TMA I/F Carolyn Stern Grant (SAO)

SIMBAD will need to provide a simple function to return location and source type given an object name.

STATUS: Not yet begun.

2.8.3 NED/TMA I/F John Good (IPAC)

NED will need to provide a simple function to return location and source type given an object name.

STATUS: Not yet begun.

2.8.4 NDADS/TMA I/F Gregg Allison (CASA)

If possible, NDADS should provide a simple function to return a list of images given a location on the sky.

STATUS: Not yet begun.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.8.5 EINSTEIN/TMA I/F

Alberto Accomazzi (SAO)

Einstein should provide a simple function to return a list of images given a location on the sky.

STATUS: Not yet begun.

2.8.6 ISSA/TMA I/F

Jing Li (IPAC)

ISSA should provide a simple function to return a list of images given a location on the sky.

STATUS: Not yet begun.

2.8.7 Abstract/TMA I/F

Carolyn Stern Grant (SAO)

The Abstract Service should provide a simple function which returns a list of abstracts given a block of subject text.

STATUS: May already exist as part of the current service.

2.8.8 Skyview/TMA I/F

John Good (IPAC)

Skyview needs to provide a mode to display an image given a file name with everything else defaulting to nominal values.

STATUS: Not yet begun.

2.8.9 AGRA/TMA I/F

Jing Li (IPAC)

AGRA needs to provide a mode to make a map from a set of tables with most things defaulting to nominal values.

STATUS: Not yet begun.

2.8.10 SAOimage/TMA I/F

Alberto Accomazzi (SAO)

SAOimage needs to provide a mode to display an image given a file name with everything else defaulting to nominal values.

STATUS: Not yet begun.

2.8.11 Carbon Star/TMA I/F

John Good (IPAC)

The carbon star service needs to provide access based on SIMBAD star names.

STATUS: Not yet begun.

2.8.12 PCyg/TMA I/F

Doug Lindholm (CASA)

The PCyg service needs to provide access based on SIMBAD star names.

STATUS: Not yet begun.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Nousek (PSU)

Status as of: 1 June 1994

USER COMMITTEE

PSU:

- Nothing to report.

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 June 1994

USER SUPPORT

CASA:

The month of May was spent developing and testing a secure patch to the file transfer service, both client and server; design and development of the core install service; contributing to the design pieces of the TMA service including an update to the catalog access service; and working with WAIS to index our catalog html formatted docs to be used with the TMA service.

Note: Tasks marked with ** indicate on-going tasks that cannot accurately reflect a % complete.

The updated MicroSoft Project input files for the month ending May 1994 are available via anonymous ftp on cuads.colorado.edu in /pub/ads_int/status in the following files:

user_sup_may.mpp	- User support
qa_may.mpp	- Testing / QA
mainten_may.mpp	- System maintenance & integration
develop_may.mpp	- Development
node_sup_may.mpp	- Node Support
meetings_may.mpp	- Meetings
managemt_may.mpp	- CASA project management

We need to update the Work Breakdown Structure since new tasks have been added and old tasks have been finished. Many of the development tasks do not have related WBS assignments.

TASKS ACCOMPLISHED:

• User Support statistics for the month:	
- New users:	60
- New US users:	39
- New non-US users:	21
- Total users as of 6/1/94:	2014
- Total US users as of 6/1/94:	1514
- Total non-US users as of 6/1/94:	500
- Information requests:	20
* answered questions: (includes "answered bin" and phone calls)	155
* resolved problems: (multiple messages for each of these)	3

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 June 1994

USER SUPPORT (Cont'd)

CASA:

TASKS ACCOMPLISHED (cont'd):

- ADS Operational Web Server Statistics for the month:
 - May's statistics can be found at the following http address:
 - * <http://adswwww.colorado.edu/reports/status.May>
 - Statistics for all months can be found at the following http address:
 - * <http://adswwww.colorado.edu/reports/reports.html>

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
4.1.3	User Support	9/30/94	0% **
	Online Help Text	9/30/94	0% **
	Science Scenarios	9/30/94	0% **
	Hypertext scenarios	9/30/94	0% **
	Mailing Lists	9/30/94	0% **
	Advertising	9/30/94	0% **
	Astro.db - Ingres	1/31/94	0% **
	ADS Doc Updates	9/30/94	0%
	Beta Test Example	5/11/94	100%
	Beta Error Report	5/11/94	100%
	Update Trifold	5/18/94	100%
	Print Trifold	6/6/94	30%
	Online Scenarios	5/25/94	90%
	Catalog List	5/24/94	100%
	Front-line support	9/30/94	1% **
	User Statistics	9/30/94	1% **
	summer AAS meeting (Lindhom attending)	6/3/94	0%
	ASP meeting - Flagstaff (Neves attending)	6/30/94	0%
	ADASS meeting	9/28/94	0%
	ADS/Mosaic WB (Bertini attending)	6/28/94	0%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 June 1994

TEST AND QA

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
	Beta Test Doc	6/30/94	75%
2.5.14.1	SQLserver 2.0	7/29/94	10%
2.6.3.1	AGRA	7/29/94	25%
2.5.3	FastLane Evaluation	6/15/94	10%
2.2.3.1	EOSServer - on hold	11/22/93	75%
2.2.4.1	Security Services	11/22/93	0%
2.2.5.1	Secure File Transfer	11/22/93	0%
2.4.11.1	LRS	7/15/94	0%
2.6.2.1	Skyview Update	9/30/94	20%
2.5.1.1	Catalogs	9/30/94	0% **
2.3.1	Log Handling Service	9/30/94	0% (IPAC)
2.3.2	Monitoring Service	9/30/94	0% (IPAC)
2.6.1	2-D Plot Service	9/30/94	0% (IPAC)
2.5.6	QBT Service	9/30/94	0% (IPAC)
	ADS Directory Service	9/30/94	0% (IPAC)
2.2.2.1	RPI/SMS	9/30/94	0% (FL?)
	Catalogs	9/30/94	27%
	reflect	9/30/94	10%
	aps_platelist	5/9/94	100%
	pm (casa)	5/5/94	100%
	binorbit (casa)	5/25/94	100%
	constell_eq1875 (casa)	9/30/94	0%
	constell_eq2000 (casa)	9/30/94	0%
	irs (casa)	5/6/94	100%
	perth_70 (casa)	5/13/94	100%
	perth_75 (casa)	5/17/94	100%
	spbin (casa)	5/23/94	100%
	start25pc (casa)	5/26/94	100%
	saohddm (casa)	9/30/94	0%
	redshift (casa)	5/3/94	100%
	redshift_zdata (casa)	5/4/94	100%
	rc3 (ipac or sao?)	9/30/94	0%

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 June 1994

SYSTEM INTEGRATION & MAINTENANCE

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

All tasks are on-going.

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
	CASA rpi's	9/30/94	0%
	CASA traders	9/30/94	0%
	CASA sqlserver	9/30/94	0%
	ADS Bug Fixes	9/30/94	0%
	ADS Integration	9/30/94	0%
	ADS Release Builds	9/30/94	0%
	Service Release Builds	9/30/94	0%
	Services Tar File Tests	9/30/94	0%
	ADS/EOS Bugs DB	9/30/94	0%
	CASA Testsuites	9/30/94	0%
	ADC CDROM Cats	9/30/94	0%

Approved: _____ G. Eichhorn
Achievement: _____ J. Stoner (ESI)

Status as of: 1 June 1994

SYSTEM INTEGRATION

TASKS ACCOMPLISHED:

The primary work at Ellery during May has been to continue support of ADS QA at CASA and the ADS project in general:

- Devin Hooker worked on TCP/IP and DCE dispatcher development and testing. Devin also participated in the weekly ADS conference calls as well as provided specific assistance to ADS QA at CASA.
- Randall Gaz worked on documentation and development of the FastLane tutorial and sample file transfer application. Randall also did development and testing on the TCP & DCE dispatchers.
- Project management, reporting and planning support were done for the ADS by Jeff Stoner.

Plans for the next two months of June and July are:

- Development activity will continue to replace ANSA/ANSA-trader based EOS.
- Specify requirements and implementation plan for security in the new RPC mechanism.
- Ongoing bug fixes and support to project as needed.
- Participation in discussions of new ADS services.

Approved: _____ G. Eichhorn
Achievement: _____ S. Murray (SAO)

Status as of: 1 June 1994

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Updated abstracts database with latest STAR data. Still waiting for new AIAA data.
- Modified abstract loading perl scripts to accommodate new keyword (C++) which contains the + sign we use for a delimiter between keywords.
- Recreated html files for the Mosaic version.
- Found a bug in bibliographical information returned by SIMBAD, which was subsequently fixed.
- Looked at setting up a Z39.50 server for the abstract server.

New SQL Service:

- Iterated with development team on design of the new SQL server.
- Bean work on DIP for the SQLserver tasks.
- Continued using/testing Ellery code for the new SQL server to determine what needs to be done to include FITS ascii table support.

File Transfer Service:

- Installed and helped test new file transfer service.

NIST Archive Service:

- Iterated with NIST personnel on GUI and server design.

Tell Me About Service:

- Commented on design of TMA service.
- Commented on catalog keyword list.
- Worked on data dictionary file design for use by the SQLserver.
- Created data dictionary files for Minnesota catalogs.

Miscellaneous:

- Looked into setting up WAIS server for the abstract server.
- Answered user questions about the Abstract Service (both ADS version and Mosaic version).
- Provided user support to local users.
- Installed core system patch on all local installations.
- Consulted with Nasa Science Internet and U. Minnesota personnel about hardware and networking logistics for the AAS meeting
- Attended and gave demos and poster at the AAS meeting.
- Updated catalog documentation for a few catalogs.

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 June 1994

DEVELOPMENT (Cont'd)

CASA

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
2.5.1	Catalog Access	9/30/94	22%
	Management of Efforts	9/30/94	52%
	CatAcc Main Panel	7/29/94	84%
	CatAcc Subservice Install	7/29/94	10%
	CatAcc Positional Query	7/29/94	21%
	CatAcc QBT	7/29/94	0%
	CatAcc SQL	7/29/94	0%
	CatAcc Query Manger	7/29/94	0%
	CatSrv Main Program	7/29/94	0%
	Data Dictionary Access	7/29/94	51%
	Database Access (sqlserver)	7/29/94	52%
	SQL Programs	7/29/94	52%
	Table Browsing (fbrowse)	7/29/94	52%
	FITSIO	7/29/94	52%
	File Transfer	7/29/94	52%
	Table Editor	9/30/94	0%
	Mosaic Interaction	9/30/94	0%
	TMA Interface	9/30/94	0%
	WAIS sb	9/30/94	0%
	Fan-in/Fan-out	9/30/94	0%
	VBT Subservice	9/30/94	0%
	Mosaic SQL Access	9/30/94	0%
2.2.7	Developer's Guide	9/30/94	75%
	Coordination of Efforts	9/30/94	90%
	SQL appendices	9/30/94	10%
	C-Lite Design Guidelines	9/30/94	0%
2.4.3	NDADS Archive	9/30/94	80%
	N/A (Client CLite Lib)	11/22/93	95%
	N/A (EOSserver CLite Lib)	11/22/93	95%
	N/A (C Server Body)	11/22/93	95%
	Link to Security Services	11/22/93	0%
	C Server B Add ADS Logfile	9/30/94	0%
2.2.6	Transfer Monitor	11/22/93	84%
	N/A (Client CLite Library)	11/22/93	95%
	N/A (EOSserver CLite Library)	11/22/93	95%
	"FTserver, FTGET Ser Body"	11/22/93	0%
	Link to Security Services	11/22/93	0%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 June 1994

DEVELOPMENT (Cont'd)

CASA (cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
	Transfer Monitor Patch	9/30/94	74%
	C FT Lib Patch Root Control	6/15/94	100%
	C FT Lib Patch ADS Logfile	6/15/94	100%
	C FTG Lib Patch DEC	6/15/94	100%
	CLite Ftrans Lib Patch	6/15/94	100%
	Remote Patch Package	6/15/94	100%
	Client Patch Package	6/15/94	100%
2.2.10	Transfer Monitor II	9/30/94	0%
	Widget	9/30/94	0%
	CLite Library	9/30/94	0%
	C FT Library Spec Protocol	9/30/94	0%
	C FT Library Replacement	9/30/94	0%
	Link to Security Services	9/30/94	0%
	Spec Distributed Computing	9/30/94	0%
	Implement Dist Comp Spec	9/30/94	0%
	Help Text	9/30/94	0%
	EOSserver CLite Library	11/22/93	50%
	Generic Plot Tool	9/30/94	2%
	Widget	9/30/94	0%
	Client CLite Library	9/30/94	0%
	C Function Library	9/30/94	0%
	IDL Server Body	9/30/94	0%
	SM Server Body	9/30/94	0%
	GKS Server Body	9/30/94	0%
	GNUPLLOT Server Body	9/30/94	0%
	XMGR Server Body	9/30/94	10%
	PLPLOT Server Body	9/30/94	22%
	Install PLPLOT Software	9/30/94	10%
	Plot Add-on Service	9/30/94	0%
	Expanded Capabilities	9/30/94	0%
	Value Added Services	9/30/94	0%
	Help Text	9/30/94	0%
2.5.7	Table Calculator	9/30/94	0%
	IDL Server	9/30/94	0%
	IUE Reprocessed Archive	9/30/94	0%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 June 1994

DEVELOPMENT (Cont'd)

CASA (cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
2.3.3	Archive Doc Requirement	4/21/94	5%
	Tell Me About Service - docs	5/26/94	92%
	Index Catalogs html Files	5/6/94	100%
	Mosaic/Wais CGI Script	5/3/94	100%
	Keyword Perl Program	5/13/94	90%
	Updt Catalogs w/keyword sec	5/12/94	100%
	Service Description tpl	5/26/94	75%
	Beta Tester Doc	6/6/94	10%
2.4.11	LRS System	7/14/94	57%
	List Settings Widget	7/14/94	95%
	Table Editor	7/14/94	50%
	FITS Transfer	7/14/94	25%
	Cool Star	8/31/94	25%
	Data Organization	8/31/94	50%
	Widget	8/31/94	0%
	Install Service	7/15/94	30%
	Core System	9/30/94	76%
	ADS Login Menu Option	5/2/94	90%
	Global Variable Mngmnt	9/30/94	0%
	Global Help Text	9/30/94	0%
	NDADS Node Support	9/30/94	75%
	HEASARC/GRO Node Support	9/30/94	0%
	APS Node Support	9/30/94	0%
	CASA Node Support (ALL)	9/30/94	0%
	LRS	9/30/94	50%
	ADC-CDROM lbn catalog	9/30/94	0%
	ADC-CDROM ldn catalog	9/39/94	0%

Approved: _____ G. Eichhorn
 Achievement: _____ J. Good (IPAC)

Status as of: 1 June 1994

OPERATIONS

ADS USER/USAGE STATISTICS:

	IPAC	IUE	PSU	SAO	HEASRC	STSCI	CASA	EUVE	NSSDC	APS
startup :	8	5	1	4	6	1	7	2	2	23
query :	357	12	1	110	41	147	268	1	0	132
schema :	321	12	1	110	39	144	265	1	0	125
retrieve :	10325	31	1	4828	182	2618	2271	1	0	14353
abort :	314	12	1	82	41	145	258	1	0	120
report :	2836	2061	2090	2087	1670	2077	1336	1798	2035	121

- startup* - Gives the number of hard startx ups of the SQLserver at the given node location
- query* - Records how many queries users sent to that particular node.
- schema* - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).
- retrieve* - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.
- abort* - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.
- report* - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

Abstracts

user	logins	queries	short	long	list
1678	4967	40174	369317	30044	4380

- users* - Number of distinct users using the abstract service
- logins* - Number of logins into the abstract service
- queries* - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).
- short* - Number of lines of short abstract information retrieved (authors and titles).
- long* - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 June 1994

Achievement: _____ C. Cornuelle (APS)

SUPPLIERS OF DATA

APS/UMinn

TASKS ACCOMPLISHED:

- Nothing to report.

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 June 1994

SUPPLIERS OF DATA (Cont'd)**CASA****TASKS ACCOMPLISHED:**

- More of the ADC CDrom catalogs are becoming available through the CASA node. See list of catalogs under the QA section for a complete update.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 June 1994

Achievement: _____ B. Stroozas (CEA/Berkeley)

SUPPLIERS OF DATA (Cont'd)

CEA

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 June 1994

Achievement: _____ S. Drake (HEASARC/GSFC)

SUPPLIERS OF DATA (Cont'd)

HEASARC/GSFC

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Mazzarella (IPAC)

Status as of: 1 June 1994

SUPPLIERS OF DATA (Cont'd)

IPAC/CALTECH

TASKS ACCOMPLISHED:

- Nothing to report.

Approved: G. Eichhorn
Achievement: P. Lawton (IUE/GSFC)

Status as of: 1 June 1994

SUPPLIERS OF DATA (Cont'd)

IUE/GSFC

TASKS ACCOMPLISHED:

- Installed patch for requiring passwords once again.
- Delivered IDL statistics procedures to IPAC upon their request.

ANTICIPATED DELIVERIES FOR THE NEXT REPORTING PERIOD:

- IUELOG update.

ADS User/Usage Statistics:

MAY

- query	12	- startup	5
- retrieve	31	- withdraw	15
- schema	12	- shutdown	5
- status	12		
- abort	12	- query making users	4
- report	2061	- total users	14
- export	15	- new users	1
- export_failure	1		

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 June 1994

Achievement: _____ W. Martin (NIST)

SUPPLIERS OF DATA (Cont'd)

NIST

TASKS ACCOMPLISHED:

- Nothing to report.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 June 1994

Achievement: _____ J. Nousek (PSU)

SUPPLIERS OF DATA (Cont'd)

PSU

TASKS ACCOMPLISHED:

- Nothing to report.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ M. Garcia(SAO)

Status as of: 1 June 1994

SUPPLIERS OF DATA (Cont'd)

SAO

TASKS ACCOMPLISHED:

- Nothing to report.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ A. Farris (STScI)

Status as of: 1 June 1994

SUPPLIERS OF DATA (Cont'd)

STScI

TASKS ACCOMPLISHED:

- Nothing to report.

ASTROPHYSICS DATA SYSTEM

NASA Grant NCCW-0024

Monthly Progress Report No. 28

for June 1994

Prepared for

**National Aeronautics and Space Administration
Astrophysics Division - Code SZ**

**Smithsonian Institution
Astrophysical Observatory
Cambridge, Massachusetts 02138**

**The Smithsonian Astrophysical Observatory
is a member of the
Harvard-Smithsonian Center for Astrophysics**

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 July 1994

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A. Farris

IPAC/ADS:
J. Good

U. Minn:
C. Cornuelle

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 July 1994

SUMMARY

We are still increasing our user base steadily. At the end of June we had over 2100 registered users.

Work on the "Tell Me About .." service is continuing. We are still currently aiming for a release in the Fall.

The ADS was represented at the User Interface Workshop at Goddard. The main concentration concerning UI work is now clearly focused on the World Wide Web. Several previous attempts at UI development had been abandoned in favour of using the WWW.

The task structure in the ADS has been updated to reflect recent developments and a clearer separation of different lines of development efforts. This new list is included in this report and will be used in the continuation proposal to NASA.

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 July 1994

ADMINISTRATIVE

TASKS ACCOMPLISHED:

Discussions with NCSA about a cooperation between the Mosaic development group and the ADS are continuing. The meeting between these groups in late June has been rescheduled for the middle of July.

The AAS meeting in early June was successfully concluded. Preparations are now underway for the 4th ADASS conference in Baltimore. We will again have a demo at this meeting and a couple of poster papers.

We are still trying to get the full article bitmaps from some of the AAS journals that were produced in the STELAR project. It is somewhat difficult to get the more than 10Gbytes of data.

The next 3 pages show the login and usage statistics. The number of logins and users for the ADS seems to stay relatively constant. The number of users and logins of the Abstract Service also seems to increase less after the dramatic rise with the release of the Mosaic version. The number of catalog data retrieved is slowly but steadily increasing.

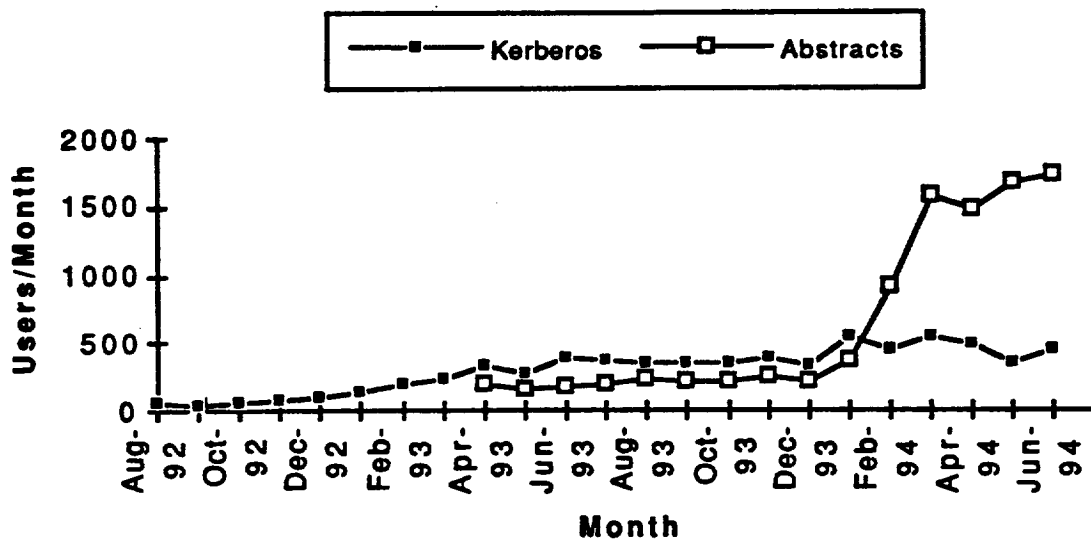
SAO

ASTROPHYSICS DATA SYSTEM

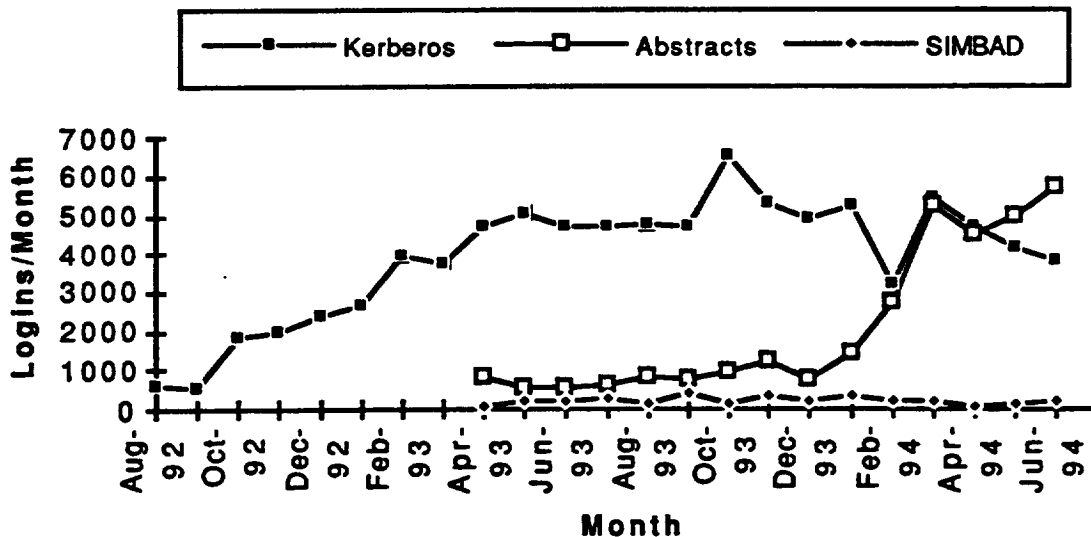
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 July, 1994

Number of Distinct Users



Number of Logins



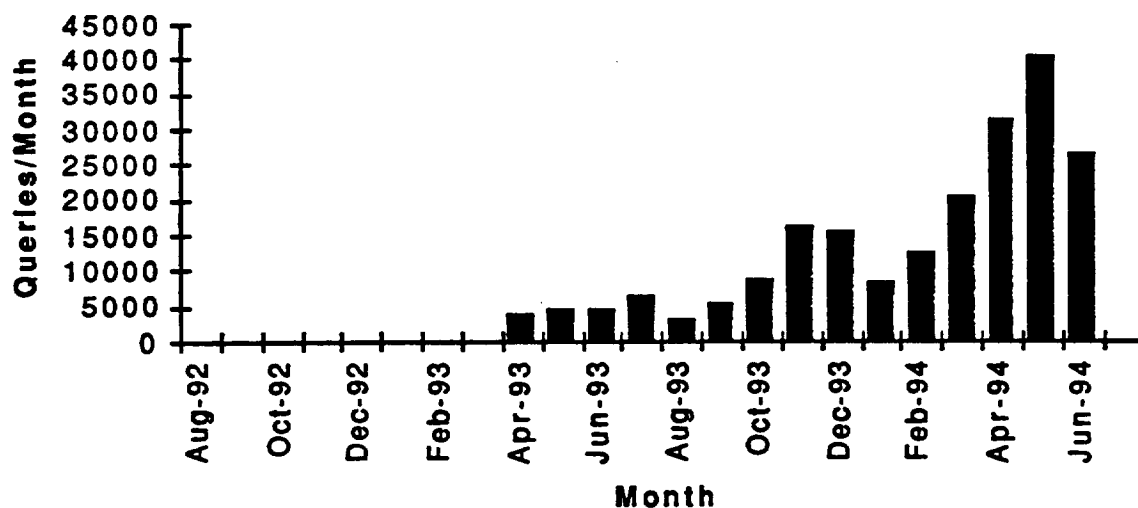
SAO

ASTROPHYSICS DATA SYSTEM

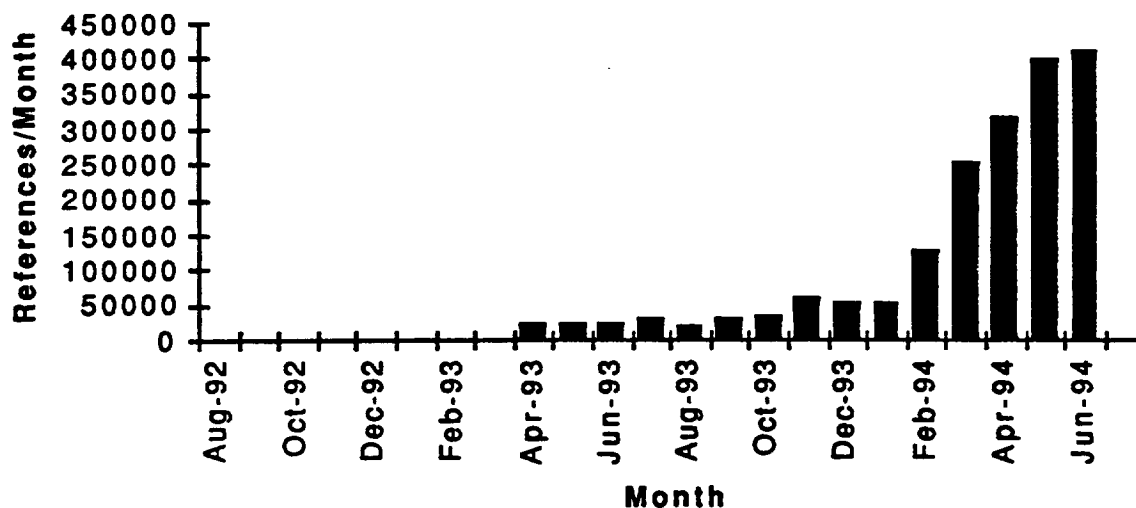
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 July, 1994

Number of Abstract Queries



Number of Retrieved Reference



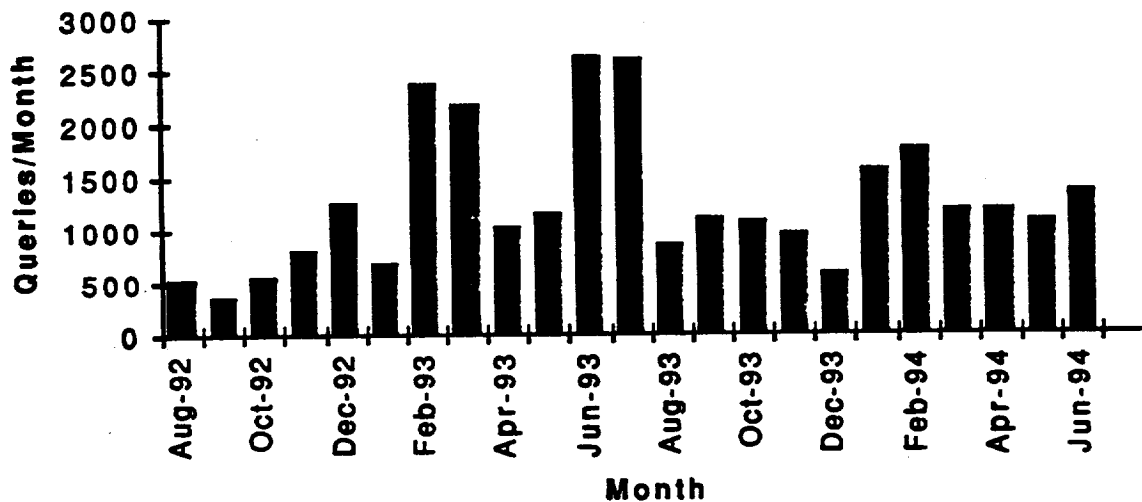
SAO

ASTROPHYSICS DATA SYSTEM

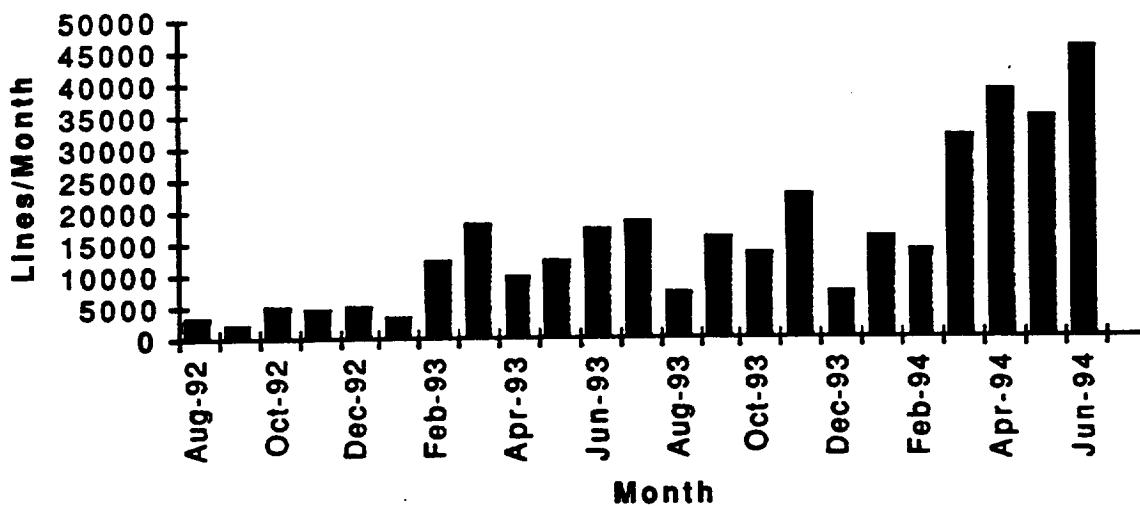
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 July, 1994

Number of SQL Server Queries



Number of Retrieved Catalog Lines



Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING

TASKS ACCOMPLISHED:

We have decided to remove the initial digits from the WBS numbers. We will either have separate WBS breakdowns for each area or add the superstructure

- 2 System Development
 - 2.1 Infrastructure Design and Development
 - 2.2 Science Tools and Services

in whenever we need to refer to things in an overall context. Normally we will refer to things as "Infrastructure II, item 5.3" (meaning the Subservice Install task) which is really 2.1.2.5.3. Except for the leading 2 (which is generally understood), all the same information is there but in a much more intelligible form. (Where applicable, the old WBS numbers are included parenthetically for reference).

2 INFRASTRUCTURE II

2.1 Communications

- 2.1.1 Requirements Study -- Investigate alternatives
- 2.1.2 FastLane Evaluation -- Evaluate Ellery product
- 2.1.3 Security Upgrades -- Full KERBEROS ticket handling

2.2 Executive

- 2.2.1 C Interpreter Exec -- Stand-alone public-domain executive
- 2.2.2 Remote Executive -- Executive process that can be used remotely

2.3 User Interface

- 2.3.1 XMUIS Upgrade -- Turn XMUIS into standalone package
- 2.3.2 MOSIAC -- Collaborate with NCSA on MOSAIC server
- 2.3.3 CUI -- Character-terminal user interface

2.4 Service Location and Management

- 2.4.1 Requirements Study -- Investigate alternatives
- 2.4.2 Prototype Locator -- Simple service as testbed

2.5 ADS Client Core System

- 2.5.1 Core ADS Upgrade -- Upgrading the ADS Core for robustness
- 2.5.2 Parameter Service -- Mechanism for passing startup data
- 2.5.3 Subservice Install -- Hooks for future catalog access functions
- 2.5.4 File Transfer Upgrades -- Upgrading for efficiency/security
- 2.5.5 Data Compression -- To save bandwidth during file transfer
- 2.5.6 WAIS Server -- WAIS client as ADS service

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

TASKS ACCOMPLISHED (cont'd):

2.6 Operational Tools

- 2.6.1 Log Handling -- Statistics and reporting
- 2.6.2 Monitoring -- Service availability, usage
- 2.6.3 Bug Server -- Bug report submission
- 2.6.4 Authenticated FTP -- FTP server with KERBEROS authentication
- 2.6.5 Data Dictionary Tools -- Maintenance procedures for nodes

2 SCIENCE II

2.1 Catalogs and Tables

- 2.1.1 Catalog Access -- General access to catalog data
 - 2.1.1.1 MOSAIC Integration
 - 2.1.1.2 SQLserver Integration
 - 2.1.1.3 Coordinate Conversion Integration
 - 2.1.1.4 Data Dictionary Integration
 - 2.1.1.5 Positional Query Integration
 - 2.1.1.6 WAIS Integration
 - 2.1.1.7 Query Fan-Out Integration
 - 2.1.1.8 Query Manager
 - 2.1.1.9 Query-by-Table
- 2.1.2 SQL Server -- Updated service to RDBMSs
 - 2.1.2.1 SQLserver Installation
 - 2.1.2.2 Data Dictionary Installation
 - 2.1.2.3 FITS Integration
 - 2.1.2.4 Dynamic Coordinate Handling

2.2 Documentation Services

- 2.2.1 WAIS Document DB -- Set of documents in support of TMA

2.3 Data Archives

- 2.3.1 NIST Archive -- Spectral line database
- 2.3.2 AAVSO Archive -- Access to variable star database

2.4 Visualization

- 2.4.1 Plot Tool -- XY plotting
- 2.4.2 AGRA -- Sky mapping

2.5 Correlation Tools

- 2.5.1 TMA Service -- "Tell Me About ..." interface
- 2.5.2 Service Updates -- Patches to old services for TMA
 - 2.5.2.1 SIMBAD/TMA I/F

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

TASKS ACCOMPLISHED (cont'd):

2.5 Correlation Tools (cont'd)

- 2.5.2.2 NED/TMA I/F
- 2.5.2.3 NDADS/TMA I/F
- 2.5.2.4 EINSTEIN/TMA I/F
- 2.5.2.5 ISSA/TMA I/F
- 2.5.2.6 Abstract/TMA I/F
- 2.5.2.7 Skyview/TMA I/F
- 2.5.2.8 AGRA/TMA I/F
- 2.5.2.9 SAOimage/TMA I/F
- 2.5.2.10 Carbon Star/TMA I/F
- 2.5.2.11 Pcyg/TMA I/F

3 SCIENCE III

3.1 Catalogs and Tables

- 3.1.1 Dynamic Catalog Mgmt -- Updating of catalogs on the fly
- 3.1.2 Table Handling -- Standalone DBMS/Spreadsheet functionality
- 3.1.3 Table Calculator -- Simplified table manipulation

3.2 Documentation Services

- 3.2.1 SIMBAD Upgrade -- Improved functionality
- 3.2.2 Abstract Svc Upgrade -- Upgrade and possible port to HP

3.3 Data Archives

- 3.3.1 UMinn POSS1 Data -- Access to the digitized POSS1 plates
- 3.3.2 IUE Archive -- Access to raw and processed IUE data
- 3.3.3 ROSAT Archive -- Access to ROSAT metadata (NDADS has data)

3.4 Visualization

- 3.4.1 VBT Integration -- Visual Browsing Tool

3.5 Correlation Tools

- 3.5.1 Correlation Tools -- Comparing of tables from different catalogs
- 3.5.2 Natural Language -- Using natural language for data searches
- 3.5.3 Proximity Join -- Joining tables on positions

3.6 Packages Interfaces

- 3.6.1 IRAF Server -- General interface to IRAF
- 3.6.2 IDL Server -- General interface to IDL
- 3.6.3 Mission Planning -- Generic mission planning tools

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

2 INFRASTRUCTURE II

2.1 Communications

2.1.1 Requirements Study

Steven Lo (IPAC)

Ellery Systems, Inc. has initiated a complete restructuring of their software products. As part of this, they are building a completely new communications infrastructure package, called FastLane. Since any change of this magnitude will seriously affect the ADS, it behooves the Project to analyze its true communications needs and to compare these to the functionality provided by the new FastLane product from ESI and to other communications modules now available.

STATUS: Work not yet begun.

2.1.2 FastLane Evaluation

Alice Bertini (CASA)

The new FastLane product from Ellery Systems, Inc. will most likely be incorporated in the ADS as the next generation communications infrastructure. Before any final decision can be made on this, however, the Project must evaluate this product for functionality, efficiency, and reliability, as well as determining how well it is supported on the various ADS platforms and whether the code meets the Project's goals for openness.

STATUS: Initial binaries for HP platform have been delivered CASA for testing.

2.1.3 Security Upgrades

Steven Lo (IPAC) (2.2.4)

ADS security is based on the KERBEROS package developed as part of Project Athena at MIT. The ADS-developed tools on top of this system allow for user authentication at the service level and for completely secure communication of data.

This functionality needs to be folded into all aspects of the ADS system and provided as a simple set of library tools for service builders.

STATUS: First generation toolkit delivered. Maintenance and refinement ongoing as time permits. Several enhancements are planned but work has not yet begun.

2.2 Executive

2.2.1 C Interpreter Exec

J. Good/M. Neves (IPAC/CASA)

The ADS currently uses the C-Lite interpreter built into the EOS product from Ellery Systems, Inc. as its primary executive process. With the software restructuring at ESI, the old C-Lite interpreter will no longer be supported for the foreseeable future. Consequently, the ADS must substitute some other module in its place. Since there now exist public domain C-interpreters, this also falls in with the Project's goals for openness.

STATUS: Initial search done and candidates found. Integration work not yet begun.

Approved: _____ G. Eichhorn -
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.2.2 Remote Executive

J. Good/M. Neves (IPAC/CASA) (2.2.3)

There are several reasons for needing a general executive function which can be run remotely. In order to control general data access services (e.g., NDADS) which can take hours or even days to retrieve results, we plan to use an EOS server. Also, there are times when the most effective way to handle a user's request is by fanning-out the processing to several machines or setting up a heirarchy of processors.

This code will probably be very similar to the executive process running directly under user control on the client machine.

STATUS: Problems that arose in testing the EOSserver from ESI have lead to abandoning that approach for the time being. This need will be investigated as part of the new executive development effort.

2.3 User Interface

2.3.1 XMUIS Upgrade

J. Li (IPAC)

As originally envisioned, the GUI service was to be a standalone process, usable from any executive or shell. For expediency, some additions were made to accomodate EOS; in particular in the display of tabular data and the handshaking mechanism used. Since EOS is no longer available, we will use this opportunity to return XMUIS to it's original form, thereby speeding it up tremendously and also making it available for general use by any developer needing general widget management.

2.3.2 MOSIAC

TBD

The XMUIS interface service currently in use within ADS is designed to support developers who need full interactive control of user interface functionality. As such, it does have an associated learning curve and does require some development time. However, the ADS need not be limited to any one such service. We plan to collaborate with NCSA on next-generation MOSAIC functionality which will support those applications where such detailed control of the user interface is not required but where access to ADS-style Executive and remote services is needed.

2.3.3 CUI

Alice Bertini (CASA) (2.2.8)

There is at present no good way for users with character terminals to access ADS functionality. A limited subset interface to such things as archive queries and catalog requests could be provided if there is suffient interest. The clean separation which is currently envisioned between the new Executive and User Interface modules (XMUIS and MOSAIC) should facilitate this greatly.

STATUS: Design work for this task has not been scheduled.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.4 Service Location and Management

2.4.1 Requirements Study

Steve Lo/TBD (IPAC/CASA)

The restructuring of the basic communications modules used in ADS (*i.e.*, converting from ANSA to FastLane or equivalent) will also require development of a replacement Service Location module. One such is envisioned by Ellery Systems, Inc. This task is to delimit the requirements of the ADS for such a location service.

2.4.2 Prototype Locator

TBD

This task is yet to be fully defined. It will be either to integrate the ESI-developed locator service (see task 2.4.1) into the ADS or to develop a separate service based on ADS-specific requirements.

2.5 ADS Client Core System

2.5.1 Core ADS Upgrade

Michelle Neves (CASA) (2.2.9)

Several refinements to the Core ADS system have been proposed which would further enhance the user's ability to maintain and update their installation.

STATUS: Work about 30% done.

2.5.2 Parameter Service

John Good (IPAC) (2.2.11)

It is often the case that services need to be started with a large number of parameters already set or that a large number of parameters need to be reset (or restored) at one time during execution. The simplest mechanism for doing this is a standard parameter file/loading mechanism.

This functionality is specifically needed for the TMA service.

STATUS: Design reviewed; development begun.

2.5.3 Subservice Install

Michelle Neves (CASA) (2.5.13)

The ADS as a whole has the ability to add new services. This concept has to be extended down into the services since many of these are themselves dynamic collections of smaller pieces. This is especially true of the catalog access service, but the model developed here should be general.

STATUS: Design work complete.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.4 File Transfer Upgrades Gregg Allison (CASA) (2.5.5) (2.5.6) (2.2.10)

The current File Transfer service is based on the FTP protocols which were defined originally to work on slow and unstable networks. They are, in consequence, quite slow.

The purpose of this task is to rewrite this service to maximize efficiency. Full optional security checking will be added to this version.

Since many services invoke file transfers at one time or another, it makes sense to coordinate these requests through one service than to have separate monitor functionality for each service.

STATUS: The new FT service pair is currently in development.

2.5.5 Data Compression (SAO?) (2.4.10)

Determine the feasibility and usefulness of data compression for bulk data transfer. If the study determines that data compression would be useful, this task would implement data compression for large-volume data.

STATUS: Study has not begun.

2.5.6 WAIS Server Jing Li (IPAC) (2.7.3)

WAIS provides distributed access to a number of textual databases around the country. Rather than replicating this functionality, it makes sense for the ADS to tap into the existing services. The simplest way to do this is to create a custom WAIS client that would run as a local ADS service. Not only do we then have access to all WAIS functionality, but we add the value of the ADS GUI interface and additional data processing tools to WAIS.

STATUS: No work yet planned though this may follow on closely to the MOSAIC Documentation Server work that is ongoing.

2.6 Operational Tools

2.6.1 Log Handling Jing Li (IPAC) (2.3.1)

Currently, our ability to determine system usage as a function of time or user is severely constrained by the format of log files and the data they contain. A generic log handling service (based on the Remote Executive and Table Handling services) will provide a wide range of statistical measures of system usage.

STATUS: An initial version of this code, based on EOS, has been developed. Fully functional remote service code is dependent on development of the Remote Executive and Table Handling services.

2.6.2 Monitoring Jing Li (IPAC) (2.3.2)

Part of the proposed enhancements to the Remote Communications system software are the hooks to allow Operations to reliably monitor and control services.

STATUS: The client tools to do this will be designed and built as soon as this functionality in Remote Communications system is available.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.6.3 Bug Server

Jacque Anderson (CASA) (2.2.3)

The Bug Server would be a simple local server and widget to help the user construct reports and mail them to User Support.

STATUS: Initial design complete. Development not yet begun.

2.6.4 Authenticated FTP

Steven Lo (IPAC) (2.3.4)

A version of the standard FTP daemon which uses KERBEROS authentication to the ADS user database to confirm the right to download system components.

STATUS: Done.

2.6.5 Data Dictionary Tools

Carolyn Grant (SAO) (2.3.8)

With the new SQLserver/Catalog Access, ADS nodes will be making much more use of Data Dictionaries (tables defining the contents of catalogs; which columns are positions, what formats to use for reporting, etc.). Consequently, there is need for a set of utilities which will aid the nodes in maintaining these tables.

STATUS: Design not yet begun.

2 SCIENCE II

2.1 Catalogs and Tables

2.1.1 Catalog Access

Alice Bertini/Michelle Neves (CASA) (2.5.1)

The current catalog access interface distributed with the ADS client was the first service built and makes use of the first generation SQLserver and catalog documents that must be distributed with the system. As is typical of such endeavors, it suffers from learning curve problems.

In migrating to the new SQL Server and Documentation Services, we must also update the integrated Catalog Access environment. We plan to make use of this opportunity to add some functionality to handle casting of coordinate from one catalog representation to another (a "Data Dictionary" mechanism). This additional functionality is considered critical by our user community and should greatly enhance catalog interoperability.

STATUS: This task has been subdivided into subtasks.

2.1.1.1 MOSAIC Integration

Integrate the MOSAIC documentation server (Task 2.5.3) into the system in the special case of ADS catalog documentation handling.

STATUS: Done and in operation.

2.1.1.2 SQLserver Integration

The new SQL Server is quite different from the one currently in use. Consequently, there is a fair bit of work need to integrate it into the Catalog Access environment properly.

STATUS: Work started.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.1.1.3 Coordinate Conversion Integration

Often the query the user wishes to pose to the Catalog Access environment is couched in terms of a coordinate system other than that in which the data is stored. When this happens, it is desirable to perform coordinate translations on the fly, both on the query and on the output tables.

STATUS: Work started.

2.1.1.4 Data Dictionary Integration

Data Dictionaries provide a convenient way for specifying how data should be interpreted and formatted when extracted from a DBMS table. The purpose of this task is to determine how best to ensure that this functionality is provided in a uniform way across the ADS.

STATUS: Work started.

2.1.1.5 Positional Query Integration

The initial ADS catalog query mechanisms were built on the use of generalized SQL requests to DBMSs whereas the bulk of user requests are for area searches around specific sources or locations. The purpose of this task is to build a general "search-in-a-cone" interface to satisfy to need for these simpler requests.

STATUS: Work started.

2.1.1.6 WAIS Integration

One of the central functions of the TMA service (Task 2.8.1) will be the ability to determine from limited subject-matter input which datasets to search. We plan to build this functionality on top of a set of WAIS servers (Task 2.7.3).

STATUS: Information content definition in progress.

2.1.1.7 Query Fan-Out Integration

As part of the TMA service (Task 2.8.1), we will be setting up a set of catalog queries to be sent out simultaneously to several servers. This ability needs to be built into the general Catalog Access tool and coordinated with other queries.

STATUS: Work begun.

2.1.1.8 Query Manager

The original SQLserver/Catalog Access system had as one component a Query Manager. This component was responsible for keeping the user apprised of the status of all outstanding queries.

With the new Catalog Access system, we will need to update (or rewrite) this function, possibly building on our experience with the File Transfer monitor.

STATUS: Not yet begun.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.1.1.9 Query-by-Table (SAO) (2.5.6)

The current Query-By-Example (QBE) functionality in ADS has been found to be cumbersome for most applications and at the request of our users we are planning a more user-friendly interface that uses a more compact, tabular form. This Query-By-Table (QBT) should greatly improve the usability of the current Catalog Access but the effort currently has low priority since it results in no new basic functionality.

STATUS: Initial design complete. Final design effort not yet scheduled.

2.1.2 SQL Server Alberto Accomazzi/Carolyn Grant (SAO) (2.5.2)

With the update to the distributed processing architecture that is currently being tested, the old SQL server access to catalog databases needed to be updated as well. In particular, support for the new service access architecture and for FITS data transfer.

The basis for this service was developed at ESI and has been delivered. Several upgrades are planned before this service is put to use.

STATUS: This task has been subdivided into subtasks.

2.1.2.1 SQLserver Installation

The SQLserver and associated tools constitute a large and important service package. In addition, specific support will be available for several optional DBMS systems. Packaging of this service for installation and operation is therefore a task in itself.

STATUS: Work not yet begun.

2.1.2.2 Data Dictionary Installation

The Data Dictionary work done under Task 2.5.4 must be integrated into the SQLserver to allow it to correctly format output and identify which columns represent which coordinates.

STATUS: Work not yet begun.

2.1.2.3 FITS Integration

One of the modes in which the SQLserver will return data is as a FITS table file copied as a file to the user's machine. This table file must contain all the information necessary for the user to import it into existing reduction packages.

STATUS: Work not yet begun.

2.1.2.4 Dynamic Coordinate Handling

With the Data Dictionary and Coordinate Conversion utilities in place, the SQLserver should be able to provide functionality above and beyond simple SQL request handling. Specifically, requests for information on a region can be submitted in any coordinate system and converted on input and data coordinate information can be converted to any coordinate system on output.

STATUS: Work not yet begun.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.2 Documentation Services

2.2.1 WAIS Document DB

Jacque Anderson (CASA) (2.2.12)

The TMA service will utilize existing database and service documentation to locate pertinent data for further study. This task is to collect and/or build the documents and WAIS indices necessary for this functionality.

This functionality is specifically need for the new TMA service.

STATUS: Catalog documents and basic index built. Service documents and additional indices in development.

2.3 Data Archives

2.3.1 NIST Archive

Carolyn Grant (SAO) (2.4.12)

The National Institute for Standards and Technology (NIST) maintains a database of spectral line strengths for a large (and growing) number of atomic and isotopic species. Access to this service will be through NIST computers.

STATUS: In development.

2.3.2 AAVSO Archive

Carolyn Grant (SAO) (2.4.11)

The American Association of Variable Star Observers (AAVSO) have the oldest and most complete set of light curves for variable stars. The database for this archive will be mounted at SAO and updated regularly.

STATUS: In development.

2.4 Visualization

2.4.1 Plot Tool

Gregg Allison (CASA) (2.6.1)

The current plot tool distributed with the system is based on a prototype IDL service developed at CASA and requires IDL (either local or remote) to run. A small amount of fine tuning of this functionality is warranted, but the service is essentially done.

Several preliminary studies have been done on integrating in existing portable graphics packages so we can offer software to people that they can run on their own machines.

STATUS: Pieces have been delivered to CASA. Development and integration there have not yet begun.

2.4.2 AGRA

Jing Li (IPAC) (2.6.3)

This local service is self-contained code for turning coordinate tables into sky maps (various projections). The development has been slow since this is not a high priority item. This service is designed to allow easy use as either an ADS server body or a stand-alone program and is integrated with both ADS services which return positional tables (NED, SIMBAD, Catalog Access) and with image display services (providing coordinate, point source, and area overlays).

STATUS: QA'd and delivered to CASA for final test.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5 Correlation Tools

2.5.1 TMA Service

John Good/Michelle Neves (IPAC/SAO) (2.8.1)

The number one request of our users is for a simple way to request information on a specific source: "What can you tell me about M31". In response to this, the ADS Project is initiating a large effort to tie the various tools in the system together into a "Tell Me About.." (TMA) service.

This task is to provide the client-side interface and integration necessary to tie the rest of the services together.

STATUS: Design phase initiated.

2.5.2 Service Updates

2.5.2.1 SIMBAD/TMA I/F

Carolyn Grant (SAO) (2.8.2)

SIMBAD will need to provide a simple function to return location and source type given an object name.

STATUS: Not yet begun.

2.5.2.2 NED/TMA I/F

John Good (IPAC) (2.8.3)

NED will need to provide a simple function to return location and source type given an object name.

STATUS: Not yet begun.

2.5.2.3 NDADS/TMA I/F

Gregg Allison (CASA) (2.8.4)

If possible, NDADS should provide a simple function to return a list of images given a location on the sky.

STATUS: Not yet begun.

2.5.2.4 EINSTEIN/TMA I/F

Alberto Accomazzi (SAO) (2.8.5)

Einstein should provide a simple function to return a list of images given a location on the sky.

STATUS: Not yet begun.

2.5.2.5 ISSA/TMA I/F

Jing Li (IPAC) (2.8.6)

ISSA should provide a simple function to return a list of images given a location on the sky.

STATUS: Not yet begun.

2.5.2.6 Abstract/TMA I/F

Carolyn Grant (SAO) (2.8.7)

The Abstract Service should provide a simple function which returns a list of abstracts given a block of subject text.

STATUS: May already exist as part of the current service.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

2.5.2.7 Skyview/TMA I/F John Good (IPAC) (2.8.8)

Skyview needs to provide a mode to display an image given a file name with everything else defaulting to nominal values.

STATUS: Not yet begun.

2.5.2.8 AGRA/TMA I/F Jing Li (IPAC) (2.8.9)

AGRA need to provide a mode to make a map from a set of tables with most things defaulting to nominal values.

STATUS: Not yet begun.

2.5.2.9 SAOimage/TMA I/F Alberto Accomazzi (SAO) (2.8.10)

SAOimage needs to provide a mode to display an image given a file name with everything else defaulting to nominal values.

STATUS: Not yet begun.

2.5.2.10 Carbon Star/TMA I/F John Good (IPAC) (2.8.11)

The carbon star service needs to provide access based on SIMBAD star names.

STATUS: Not yet begun.

2.5.2.11 Pcyg/TMA I/F Doug Lindholm (CASA) (2.8.12)

The PCyg service needs to provide access based on SIMBAD star names.

STATUS: Not yet begun.

3 SCIENCE III

3.1 Catalogs and Tables

3.1.1 Dynamic Catalog Mgmt (2.5.12)

Implement the dynamic addition and removal of catalogs. In ADS 2.0 the catalogs are hardcoded in the user release. With the dynamic catalog management, new catalogs can be brought on-line without requiring a new user release.

STATUS: Superseded by the work on Catalog Access and Documentation Service.

3.1.2 Table Handling Alberto Accomazzi (SAO) (2.5.15)

In the current ADS system, the handling of tables is integrated directly into the Executive process (EOS). This causes several problems, the greatest of which are subsequent slowness of the program as an Executive and difficulty in using table handling functions from within other services.

The purpose of this task is to provide table handling functionality in a stand-alone mode.

STATUS: Not yet begun.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

3.1.3 Table Calculator

Gregg Allison? (CASA) (2.5.7)

There are many functions that scientists want to perform on tabular data that are not typically found in commercial DBMS software, nor is the interfaces available in these environments flexible enough for the kind of detailed analysis that scientists need to do. With the functionality already available in ADS, it should be straightforward to provide better tabular analysis tools.

STATUS: Design not yet scheduled.

3.2 Documentation Services

3.2.1 SIMBAD Upgrade

Carolyn Stern Grant (SAO) (2.4.6.1)

Strasbourg has release new SIMBAD interface routines. The ADS service needs to be update to use these.

STATUS: Design not yet begun.

3.2.2 Abstract Svc Upgrade

(SAO) (2.4.9)

The Abstract Server, while quite successful and capable, was a venture into new territory and will certainly need updating as we gain experience. In addition, it has been proposed to migrate the server to a faster platform for added throughput.

STATUS: Design has not begun.

3.3 Data Archives

3.3.1 UMinn POSS1 Data

(IPAC?) (2.4.8)

The University of Minnesota has scanned the POSS-1 plates and created a database of sources detected. This data can and will be accessed through a standard SQLserver. The project will, if necessary, lend some assistance to UMinn in setting this up since this is a uniquely valuable resource for the community.

STATUS: Preliminary design discussions have been held but no work is yet assigned.

3.3.2 IUE Archive

(CASA?) (2.4.7)

IUE data is available through the NDADS service, but there is still a need for a meta-data search capability to help the user locate the correct datasets to request.

STATUS: Design not yet begun.

3.3.3 ROSAT Archive

Carolyn Grant (SAO) (2.4.13)

Use of the ROSAT metadata tables give us a mechanism for determining which ROSAT data items to request from the NDADS service. This is a good example of how layering of services increases the value of the sum.

STATUS: In development.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

3.4 Visualization

3.4.1 VBT Integration

Visual Browsing Tool

3.5 Correlation Tools

3.5.1 Correlation Tools

(SAO?) (2.5.9)

The basic ADS system contains a simple correlation function which compares catalog tables on the basis of positional coincidence. Other correlation functions based on source properties, classifications, names etc are possible. Tools for generating these correlations will be developed and added to the system.

STATUS: Design not yet scheduled.

3.5.2 Natural Language

(SAO?) (2.5.11)

Determine the feasibility of using natural language queries for data retrieval.

STATUS: Design not yet scheduled.

3.5.3 Proximity Join

(SAO?) (2.5.8)

The primary mode that astronomers use in comparing tables of sky objects is to check the proximity on the sky of sources. This function is not currently supplied by commercial DBMSs (in fact, is at odds with the standard relational model which only deals with "equi-joins"). This task would be to provide a mechanism for "joining" two tables on the basis of the proximity of two objects in it.

STATUS: Design not yet scheduled.

3.6 Packages Interfaces

3.6.1 IRAF Server

(SAO?) (2.7.1)

The goal of IRAF was to provide a set of data processing and analysis services. This meshes extremely well with the ADS functionality to provide distributed access to such services. In addition the interfaces of the two systems are constructed in such a way as to allow melding of the systems with minimal impact on either.

STATUS: No work yet planned.

3.6.2 IDL Server

(CASA?) (2.7.2)

IDL is widely used in the astrophysical community for visualization and analysis of local datasets. Combining this functionality with ADS should produce a general distributed data processing environment of great power.

STATUS: No work yet planned.

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

SYSTEM ENGINEERING (Cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

3.6.3 Mission Planning

(SAO?) (2.3.5)

One long term objective being considered by the ADS Project is the development of distributed mission planning and mission operations tools to support many missions. A preliminary study has shown that many of the mission planning tools currently in use have a core of similar functions that are "re-invented" by each mission center. In addition, the interface of mission planning tools with the user community varies with each mission, requiring that scientists learn several slightly different systems. The ADS can be helpful in supplying missions with a library of planning tools, and a standard user interface. This will allow mission resources to be concentrated on mission specific requirements. It offers the user community a simpler mechanism for developing observation requests in response to NASA AOs, particularly through the use of electronic preparation and submission of these requests.

STATUS: Design work not yet scheduled.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: G. Eichhorn
Achievement: J. Nousek (PSU)

Status as of: 1 July 1994

USER COMMITTEE

PSU:

- Nothing to report.

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

USER SUPPORT

CASA:

The month of June was spent developing and testing a secure patch to the file transfer service, both client and server; design and development of the core install service; contributing to the design pieces of the TMA service including an update to the catalog access service; and working with WAIS to index our catalog html formatted docs to be used with the TMA service.

Scheduling work related to the FY95 proposal was also completed during the month of June.

Note: Tasks marked with ** indicate on-going tasks that cannot accurately reflect a % complete.

The updated MicroSoft Project input files for the month ending May 1994 are available via anonymous ftp on cuads.colorado.edu in /pub/ads_int/status in the following files:

user_sup_june.mpp	- User support
qa_june.mpp	- Testing / QA
mainten_june.mpp	- System maintenance & integration
develop_june.mpp	- Development
node_sup_june.mpp	- Node Support
meetings_june.mpp	- Meetings
managemt_june.mpp	- CASA project management

We are in the process of updating the Work Breakdown Structure since new tasks have been added and old tasks have been finished. Many of the development tasks do not have related WBS assignments.

TASKS ACCOMPLISHED:

- User Support statistics for the month:
 - New users: 87
 - New US users: 25
 - New non-US users: 62
 - Total users as of 7/1/94: 2101
 - Total US users as of 7/1/94: 1576
 - Total non-US users as of 7/1/94: 525

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

USER SUPPORT (Cont'd)

CASA:

TASKS ACCOMPLISHED (cont'd):

- Answered questions: (includes the following) 168
 - info_request: registration and installation requests 11
 - reg_forms: completed registration forms (43 from WWW) 66
 - info_change: requests to change status, email,
 - new_password: requests for new password (forgot old one) 10
 - how_to_qs: questions about how to use the ADS 6
 - install_qs: questions concerning installation 4
 - error_qs: questions concerning minor errors 25
 - general_qs: all other questions 24
 - not_compat: messages concerning non-compatible systems 4
 - no_compat_PC: messages concerning PC's and Mac's 5
 - enhance_req: user suggested enhancements
 - kudos: happy comments :-)) 1
 - comments: other user comments 4
 - phone calls: phone calls from users 8
- Resolved problems: resolved major problems (series of messages) 6
- _ADS Operational Web Server Statistics for the month:
 - June's statistics can be found at the following http address:
 - * <http://adswwww.colorado.edu/reports/status.June>
 - Statistics for all months can be found at the following http address:
 - * <http://adswwww.colorado.edu/reports/reports.html>

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
4.1.3	User Support	9/30/94	0% **
	Online Help Text	9/30/94	0% **
	Science Scenarios	9/30/94	1% **
	Hypertext scenarios	9/30/94	0% **
	Convert SAO Scenario - html	6/16/94	90%
	Mailing Lists	9/30/94	0% **
	Advertising	9/30/94	0% **
	Astro.db - Ingres	1/31/94	0% **
	ADS Doc Updates	9/30/94	0%
	General Updates	9/30/94	0%
	Update WWW docs	6/21/94	100%
	Print Trifold	6/7/94	100%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

USER SUPPORT (Cont'd)

CASA:

TASKS ACCOMPLISHED (cont'd):

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
	Online Scenarios	6/1/94	100%
	WWW Mail Programs	6/7/94	100%
	Update PC Scenarios	6/17/94	100%
	JILA Presentation	6/21/94	100%
	Teachers Workshop Demo	7/15/94	40%
	Front-line support	9/30/94	1% **
	Education Outreach	7/29/94	90% **
	Scenarios	7/29/94	90%
	Keywords	7/29/94	10%
	Widget	7/29/94	10%
	Subject Lists	7/29/94	0%
	User Statistics	9/30/94	1% **
	summer AAS meeting	6/3/94	100%
	(Lindhom attending)		
	ADASS meeting	9/28/94	0%
	ADS/Mosaic WG	7/18/94	0%
	(Bertini attending)		
	ASP meeting - Flagstaff	6/21/94	100%
	(Neves attending)		
	ADS Tutorial on Mac	6/21/94	100%
	Directions for PC/Mac	6/21/94	100%
	ADS Guest Account		
	on subway	6/21/94	100%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

TEST AND QA

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
	Beta Test Doc	6/30/94	100%
2.5.14.1	SQLserver 2.0	7/29/94	10%
2.6.3.1	AGRA	7/29/94	75%
2.5.3	FastLane Evaluation	6/30/94	0%
2.2.3.1	EOSServer - on hold	11/22/93	75%
2.2.4.1	Security Services	11/22/93	0%
2.2.5.1	Secure File Transfer	11/22/93	0%
2.4.11.1	LRS	8/30/94	0%
2.6.2.1	Skyview Update	9/30/94	20%
2.5.1.1	Catalog Service	9/30/94	0% **
2.3.1	Log Handling Service	9/30/94	0%
2.3.2	Monitoring Service	9/30/94	0%
2.6.1	2-D Plot Service	9/30/94	0%
2.5.6	QBT Service	9/30/94	0%
	ADS Directory Service	9/30/94	0%
	Coordinate Stack Service	9/30/94	0%
	Catalogs	9/30/94	7%
	reflect	9/30/94	10%
	euve_cat1	7/6/94	100%
	constell_eq1875 (casa)	9/30/94	0%
	constell_eq2000 (casa)	9/30/94	0%
	saohddm (casa)	9/30/94	0%
	rc3 (ipac or sao?)	9/30/94	0%

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

SYSTEM INTEGRATION & MAINTENANCE

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

All tasks are on-going.

<u>WBS#</u>	<u>Task</u>	<u>Completion Date</u>	<u>% complete</u>
	IDL 2-D Plotting	9/30/94	0%
	Table Calculator	9/30/94	0%
	Startup Options	9/30/94	0%
	Display IP Script	9/30/94	0%
	File Transfer Monitor	9/30/94	7%
	NDADS Archive Service	9/30/94	7%
	ADS Bug Fixes	9/30/94	0%
	ADS Integration	9/30/94	0%
	ADS Release Builds	9/30/94	0%
	Service Release Builds	9/30/94	0%
	Services Tar File Tests	9/30/94	0%
	CASA Testsuites	9/30/94	0%
	ADC CDROM Cats	9/30/94	0%
	Adding New Catalogs	9/30/94	0%
	Testing New Catalogs	9/30/94	0%

Approved: _____ G. Eichhorn
Achievement: _____ J. Stoner (ESI)

Status as of: 1 July 1994

SYSTEM INTEGRATION

TASKS ACCOMPLISHED:

The primary work at Ellery during June has been to continue support of ADS QA at CASA and the ADS project in general:

- Lowell Schneider began work on a service to provide relational operators, formerly available in the EOS product, as a stand-alone server body for FastLane.
- Project management, reporting and planning support were done for the ADS by Jeff Stoner.

Plans for the next two months of July and August are:

- Development activity will continue to replace ANSA/ANSA-trader based EOS.
- Specify requirements and implementation plan for security in the new RPC mechanism.
- Ongoing bug fixes and support to project as needed.
- Participation in discussions of new ADS services.

Approved: _____ G. Eichhorn
Achievement: _____ S. Murray (SAO)

Status as of: 1 July 1994

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

1. Designed DIP for Catsrv, ddaccess
2. More testing for setting up abstract WAIS server
3. Update of abstract loading scripts.

Abstract Service:

- Added link to Simbad in the Mosaic version of the abstract service which gives the additional capability of searching on object name.
- Continued testing of setting up abstract WAIS server using freewais-sf.
- Updated abstract loading scripts to minimize disk space storage.
- Fixed abstract service bug in scoring.

NIST Archive Service:

- Took over lead development position for NIST server.
- Installed RCS on NIST machines to facilitate coordination of development.
- Continued development of server body and GUI.
- Discussed implications of implementing a firewall on NIST machines.

New SQL Service:

- Iterated with development team on design of the new SQL server.
- Began work on DIP for the SQLserver tasks.
- Continued using/testing Ellery code for the new SQL server to determine what needs to be done to include FITS ascii table support.

File Transfer Service:

- Installed and helped test updated version of new file transfer service.
- Switched over all operational file transfer servers to the new version.

ROSAT Archive Service:

- Created database of ROSAT observations and began cloning the *Einstein* Archive Service to create a ROSAT Archive Service.

Miscellaneous:

- Attended and gave demos and poster at the AAS meeting.
- Answered user questions about the Abstract Service (both ADS version and Mosaic version).
- Wrote new demo scenarios for ADS using abstract service, catalog service, *Einstein* Archive Service, SAOimage, Skyview, and Simbad.
- Gave ADS talk to 15 summer interns at SAO.
- Began work with a summer intern on incorporating new catalogs into ADS.

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

DEVELOPMENT (Cont'd)

CASA

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
2.5.1	Catalog Access	9/30/94	25%
	Management of Efforts	9/30/94	50%
	CatAcc Main Panel	7/29/94	80%
	CatAcc Subservice Install	7/29/94	10%
	CatAcc Positional Query	8/15/94	20%
	CatAcc QBT	8/30/94	0%
	CatAcc SQL	7/29/94	0%
	CatAcc Query Manger	8/30/94	0%
	CatSrv Main Program	8/30/94	0%
	Data Dictionary Access	8/30/94	50%
	Database Access (sqlserver)	8/30/94	50%
	SQL Programs	8/30/94	50%
	Table Browsing (fbrowse)	8/30/94	50%
	FITSIO	8/30/94	50%
	File Transfer	9/30/94	50%
	Table Editor	5/51/96	0%
	Mosaic Interaction	9/30/94	0%
	TMA Interface	9/30/94	0%
	WAIS sb	7/29/94	0%
	Fan-in/Fan-out	12/1/94	0%
	VBT Subservice	9/29/95	0%
	Mosaic SQL Access	9/30/94	90%
2.2.7	Developer's Guide	9/30/94	33%
	Coordination of Efforts	9/30/94	90%
	SQL appendices	9/30/94	10%
	C-Lite Design Guidelines	9/30/94	0%
2.4.3	NDADS Archive	6/15/94	93%
	N/A (Client CLite Lib)	11/22/93	95%
	N/A (EOSserver CLite Lib)	11/22/93	95%
	N/A (C Server Body)	11/22/93	95%
	Link to Security Services	11/22/93	0%
	C Server B Add ADS Logfile	6/15/94	100%
2.2.6	Transfer Monitor	11/22/93	84%
	N/A (Client CLite Library)	11/22/93	95%
	N/A (EOSserver CLite Library)	11/22/93	95%
	"FTserver, FTGET Ser Body"	11/22/93	0%
	Link to Security Services	11/22/93	0%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

DEVELOPMENT (Cont'd)

CASA (cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
	Transfer Monitor Patch	6/30/94	99%
	C FT Lib Patch Root Control	6/1/94	100%
	C FT Lib Patch ADS Logfile	6/1/94	100%
	C FTG Lib Patch DEC	6/1/94	100%
	CLite Frans Lib Patch	6/1/94	100%
	Remote Patch Package	6/1/94	100%
	Client Patch Package	6/1/94	100%
	Testing	6/30/94	99%
2.2.10	Transfer Monitor II	9/30/94	0%
Note: This task has not yet been scoped completely so the schedule completion dates are inaccurate.			
	Widget	9/30/94	0%
	CLite Library	9/30/94	0%
	C FT Library Spec Protocol	9/30/94	0%
	C FT Library Replacement	9/30/94	0%
	Link to Security Services	9/30/94	0%
	Spec Distributed Computing	9/30/94	0%
	Implement Dist Comp Spec	9/30/94	0%
	Help Text	9/30/94	0%
	Generic Plot Tool	9/30/94	8%
	Widget	9/30/94	25%
	Client CLite Library	9/30/94	0%
	C Function Library	9/30/94	0%
	IDL Server Body	9/30/94	0%
	SM Server Body	9/30/94	0%
	GKS Server Body	9/30/94	0%
	GNUPLOT Server Body	9/30/94	0%
	XMGR Server Body	9/30/94	10%
	PLPLOT Server Body	9/30/94	10%
	Install PLPLOT Software	9/30/94	50%
	Install TCL software	6/17/94	100%
	Install TCL/TK software	6/17/94	100%
	Install TCL/DP software	6/17/94	100%
	Install TCL/ITCL software	6/17/94	100%
	Plot Add-on Service	9/30/94	0%
	Expanded Capabilities	9/30/94	0%

Approved: _____ G. Eichhorn
 Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

DEVELOPMENT (Cont'd)

CASA (cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
	Value Added Services	9/30/94	0%
	Help Text	9/30/94	0%
	Install Motif 1.2 on Suns	6/24/94	100%
	Install UIM/X on Suns	6/24/94	100%
2.5.7	Table Calculator	9/30/94	0%
	IDL Server	9/30/94	0%
	IUE Reprocessed Archive	9/30/94	0%
2.3.3	Archive Doc Requirement	7/29/94	5%
	Tell Me About Service	9/30/94	53%
	Widget Design	7/14/94	100%
	Revised DIP	7/14/94	100%
	C-Lite Code	8/31/94	10%
	WAIS Hooks	9/30/94	0%
	Parameter Passing	9/30/94	10%
	SIMBAD/NED Hooks	9/30/94	0%
	Core System Additions	9/30/94	0%
	Service Description tmp.	7/15/94	75%
	Index Catalogs by Field	7/8/94	80%
	Install Freewais-sf Sun	6/9/94	100%
	Install Sfgate - Sun	6/17/94	90%
	Port Freewais-sf - Dec	7/20/94	0%
	Port Freewais-sf - HP	8/3/94	0%
2.4.11	LRS System	8/30/94	57%
	List Settings Widget	8/30/94	95%
	Table Editor	8/30/94	50%
	FITS Transfer	8/30/94	25%
	Cool Star	8/31/94	25%
	Data Organization	8/31/94	50%
	Widget	8/31/94	0%
	Install Service	7/29/94	44%
	Widget Redesign/C-Lite	7/29/94	40%
	Remote Server Update Check	7/29/94	90%
	Local Service Directories	7/29/94	10%
	Core System	9/30/94	76%
	Global Variable Mngmnt	9/30/94	0%
	Global Help Text	9/30/94	0%

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

DEVELOPMENT (Cont'd)

CASA (cont'd)

WORK IN PROGRESS AND PROJECTED COMPLETION DATES (cont'd):

<u>WBS#</u>	<u>Task</u>	<u>End Date</u>	<u>% complete</u>
	NDADS Node Support	9/30/94	75%
	HEASARC/GRO Node Support	9/30/94	0%
	NRAO Node Support	9/30/94	10%
	CASA Node Support	9/30/94	0%
	ADC-CDROM lbn catalog	9/30/94	0%
	ADC-CDROM ldn catalog	9/39/94	0%
	APS Node Support	9/30/94	0%

Approved: _____ G. Eichhorn
 Achievement: _____ J. Good (IPAC)

Status as of: 1 July 1994

OPERATIONS

ADS USER/USAGE STATISTICS:

	IPAC	IUE	PSU	SAO	HEASRC	STSCI	CASA	EUVE	NSSDC	APS
startup :	10	5	2	5	8	1	4	14	5	-- 20
query :	460	23	5	199	38	121	307	24	12	159
schema :	435	23	5	196	35	121	303	24	12	153
retrieve :	13593	33	5	1323	524	1023	15777	75	18	13001
abort :	417	23	5	161	37	109	289	16	12	144
report :	2448	1865	1886	1890	1548	1870	1724	1764	1802	195

- startup* - Gives the number of hard startx ups of the SQLserver at the given node location
- query* - Records how many queries users sent to that particular node.
- schema* - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).
- retrieve* - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.
- abort* - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.
- report* - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

Abstracts

user	logins	queries	short	long	list
271	923	4628	37248	3635	28260

- users* - Number of distinct users using the abstract service
- logins* - Number of logins into the abstract service
- queries* - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).
- short* - Number of lines of short abstract information retrieved (authors and titles).
- long* - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ C. Cornuelle (APS)

Status as of: 1 July 1994

SUPPLIERS OF DATA

APS/UMinn

TASKS ACCOMPLISHED:

- Nothing to report.

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 July 1994

SUPPLIERS OF DATA (Cont'd)**CASA****TASKS ACCOMPLISHED:**

- More of the ADC CDrom catalogs are becoming available through the CASA node. See list of catalogs under the QA section for a complete update.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ B. Stroozas (CEA/Berkeley)

Status as of: 1 July 1994

SUPPLIERS OF DATA (Cont'd)

CEA

TASKS ACCOMPLISHED:

- CEA ISM tool installed and distributed.
- NEW EUVE catalogue; euve_cat1 installed and distributed.

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- Work in progress on installing several internal catalogs on ADS.
- Spectral Archive server tool is presently available through Xmosaic and work is in progress on installing the tool into ADS.
- New public catalogue; a catalogue of EUVE detected sources, intended as a supplement to euve_cat1 is being added to an SQL database prior to release on ADS.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 July 1994

Achievement: _____ S. Drake (HEASARC/GSFC)

SUPPLIERS OF DATA (Cont'd)

HEASARC/GSFC

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Mazarella (IPAC)

Status as of: 1 July 1994

SUPPLIERS OF DATA (Cont'd)

IPAC/CALTECH

TASKS ACCOMPLISHED:

- Nothing to report.

Approved: _____ G. Eichhorn
Achievement: _____ P. Lawton (IUE/GSFC)

Status as of: 1 July 1994

SUPPLIERS OF DATA (Cont'd)

IUE/GSFC

TASKS ACCOMPLISHED:

- IUE updated the IUELOG table and associated HTML files.
- IUE updated the IUEFES table and associated HTML files.

ADS User/Usage Statistics:

JUNE

- query	23	- startup	5
- retrieve	33	- withdraw	15
- schema	23	- shutdown	5
- status	23		
- abort	23	- query making users	6
- report	1865	- total users	15
- export	15	- new users	2
- export_failure	1		

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ W. Martin (NIST)

Status as of: 1 July 1994

SUPPLIERS OF DATA (Cont'd)

NIST

TASKS ACCOMPLISHED:

- Nothing to report.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Nousek (PSU)

Status as of: 1 July 1994

SUPPLIERS OF DATA (Cont'd)

PSU

TASKS ACCOMPLISHED:

- Nothing to report.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ M. Garcia(SAO)

Status as of: 1 July 1994

SUPPLIERS OF DATA (Cont'd)

SAO

TASKS ACCOMPLISHED:

- Nothing to report.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ A. Farris (STScI)

Status as of: 1 July 1994

SUPPLIERS OF DATA (Cont'd)

STScI

TASKS ACCOMPLISHED:

- Nothing to report.

ASTROPHYSICS DATA SYSTEM

NASA Grant NCCW-0024

Monthly Progress Report No. 29

for July 1994

Prepared for

National Aeronautics and Space Administration
Astrophysics Division - Code SZ

Smithsonian Institution
Astrophysical Observatory
Cambridge, Massachusetts 02138

The Smithsonian Astrophysical Observatory
is a member of the
Harvard-Smithsonian Center for Astrophysics

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 August 1994

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PSU:
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GSFC/HEASARC:
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S. Murray

GSFC/NSSDC:
M. Van Steenberg

STScI:
A. Farris

IPAC/ADS:
J. Good

U. Minn:
C. Cornuelle

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 August 1994

SUMMARY

NASA has asked ADS to restructure the project because of increasing budget shortfalls. The main emphasis of the restructured ADS will be on bibliographic services. We will send out a note about the restructured ADS soon.

Because of this restructuring, no development tasks are currently in progress.

We are currently preparing for the ADASS meeting with posters and talks.

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 August 1994

ADMINISTRATIVE

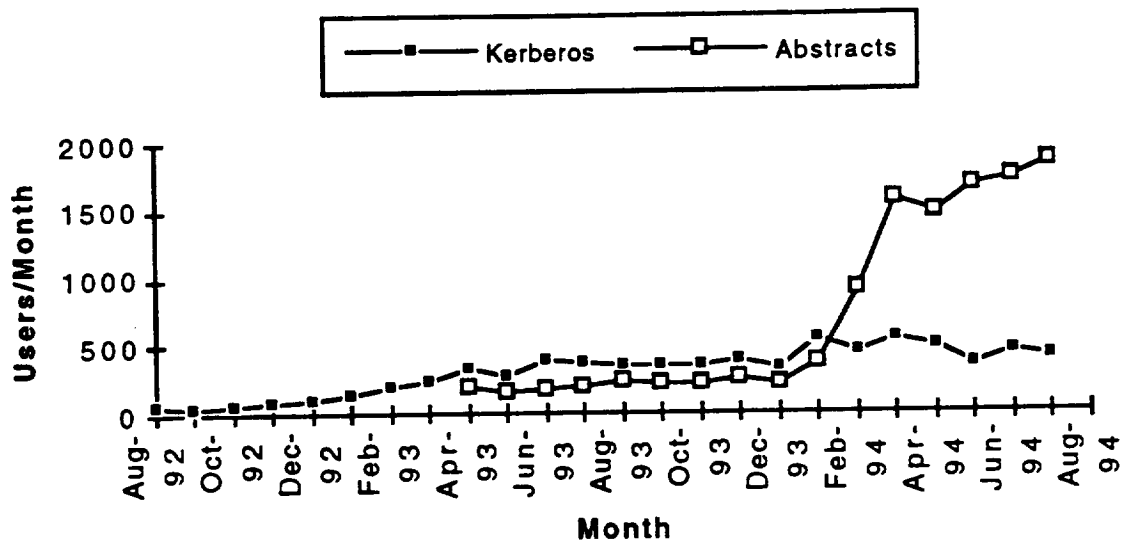
TASKS ACCOMPLISHED:

Preparations of a new proposal under the new budget guidelines is progressing. This includes planning tasks for the new ADS.

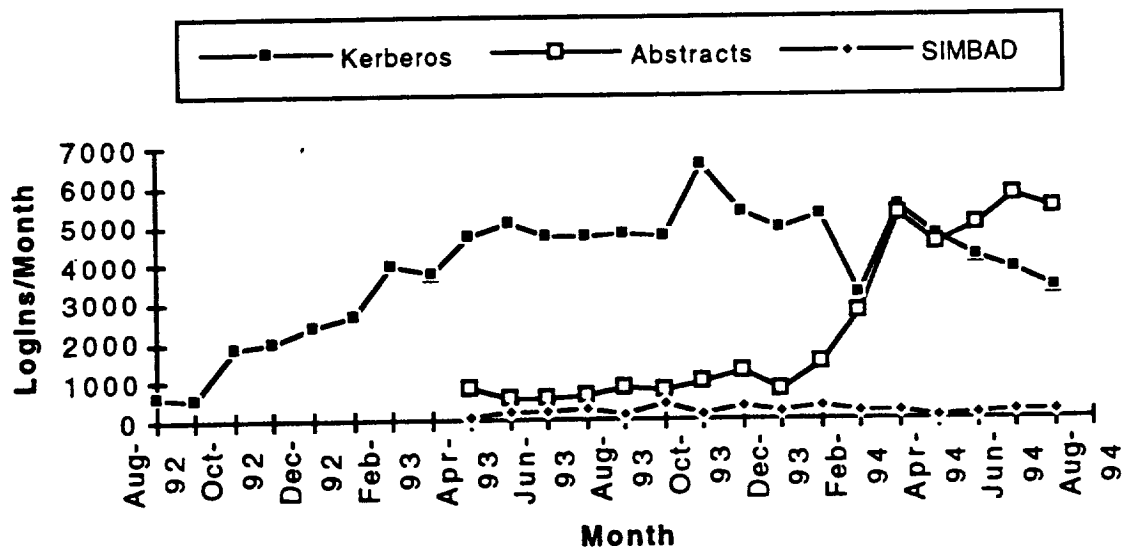
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 August, 1994

Number of Distinct Users



Number of Logins



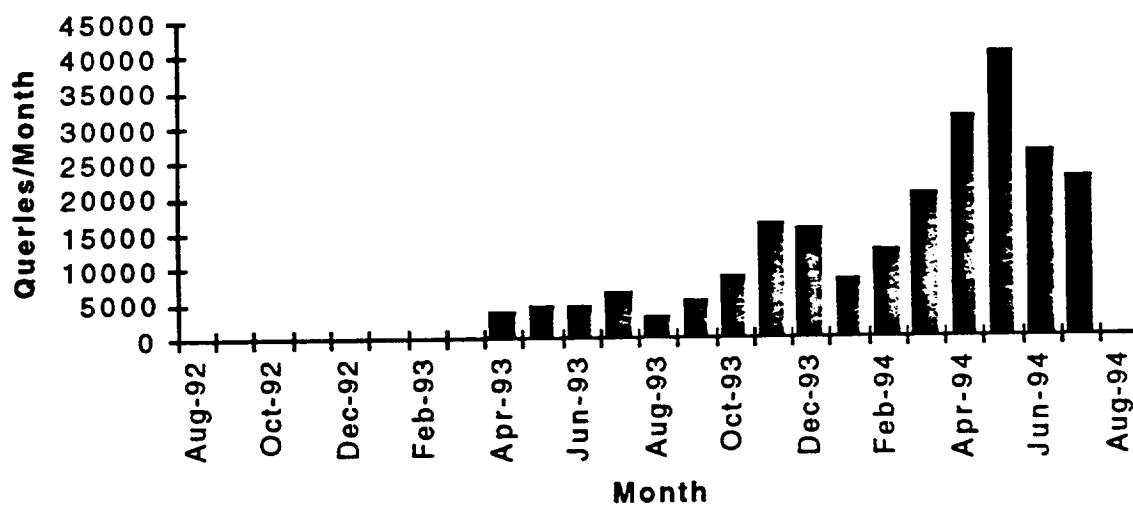
SAO

ASTROPHYSICS DATA SYSTEM

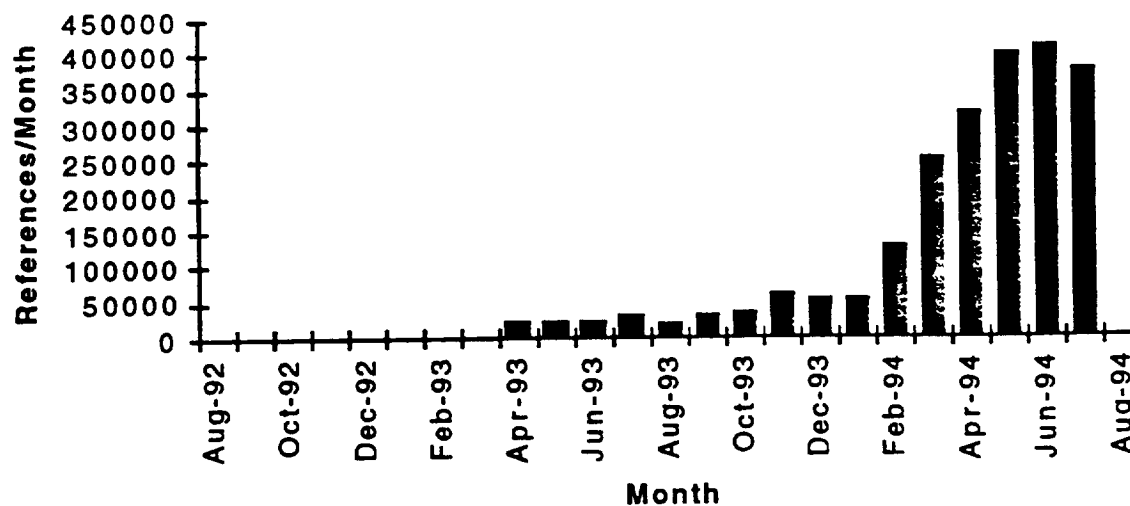
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 August, 1994

Number of Abstract Queries



Number of Retrieved References



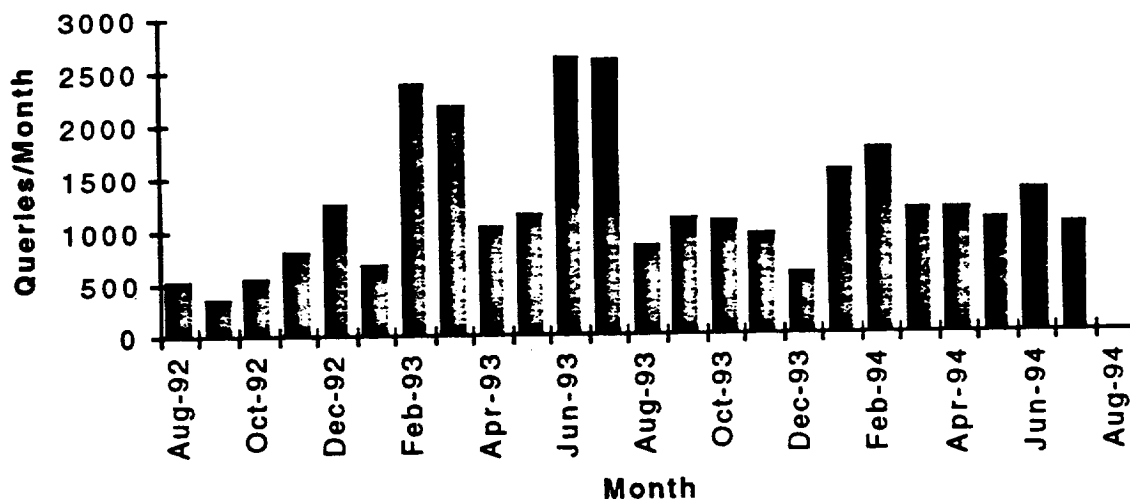
SAO

ASTROPHYSICS DATA SYSTEM

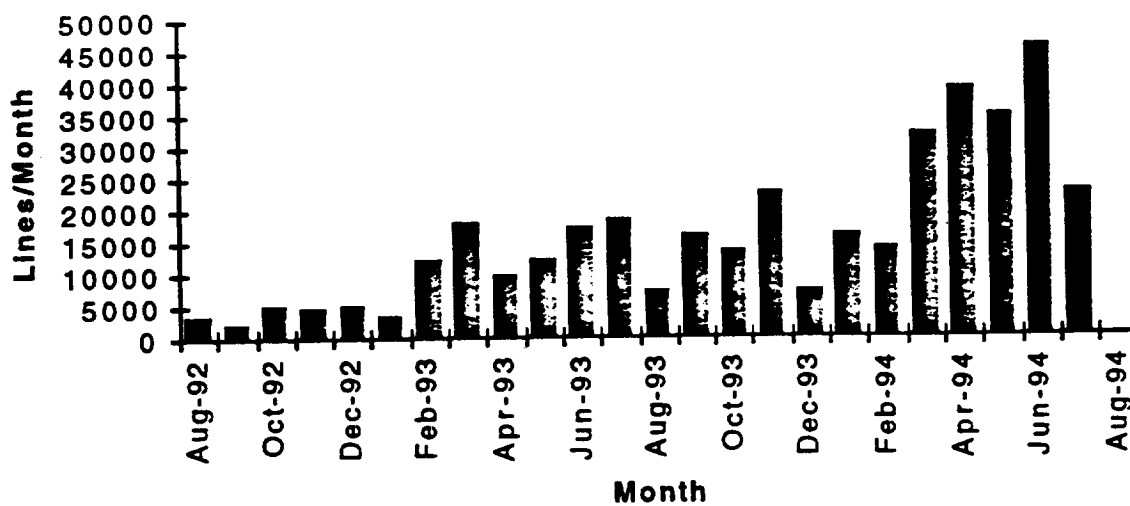
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 August, 1994

Number of SQL Server Queries



Number of Retrieved Catalog Lines



SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 August 1994

SYSTEM ENGINEERING

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Nousek (PSU)

Status as of: 1 August 1994

USER COMMITTEE

PSU:

- Nothing to report

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 August 1994

USER SUPPORT

CASA:

The month of July ended with bad news from NASA Headquarters regarding continued support of the ADS project. Effective immediately the ADS project will begin a transition phase for Operations, User Support, Node Support, Infrastructure Development, and Scientific Services Development under the current proprietary platform in favor of migrating the existing scientific services to an open architecture, namely NCSA Mosaic and the World Wide Web.

This transition work also represents a ramp-down in the current level of effort associated with the ADS project. Consequently, 5 of the ADS funded FTE's at CASA will be moving onto other projects or organizations during this transition period.

The format of these status reports will also change to reflect the transition and migration efforts. The new format will include some reporting on usage statistics of the current system and pointers to the ADS operation Web server log files. There will no longer be inclusions of status updates from the CASA maintained Microsoft Project files as most of the tasks listed will no longer be applicable for the transition phase.

TASKS ACCOMPLISHED:

- User Support statistics for the month:

- New users:	69
- New US users:	41
- New non-US users:	28
- Total registered users:	2170
- Total US users:	1617
- Total non-US users :	553

- _ADS Operational Web Server Statistics for the month:
 - July's statistics can be found at the following http address:
 - * <http://adswwww.colorado.edu/reports/status.July94>

 - Statistics for all months can be found at the following http address:
 - * <http://adswwww.colorado.edu/reports/reports.html>

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 August 1994

USER SUPPORT (Cont'd)

CASA:

TASKS ACCOMPLISHED (cont'd):

- Answered questions: (includes the following)	149
info_request: registration and installation requests	9
reg_forms: completed registration forms (39 from WWW)	67
info_change: requests to change status, email,	1
new_password: requests for new password (forgot old one)	9
how_to_qs: questions about how to use the ADS	4
install_qs: questions concerning installation	
error_qs: questions concerning minor errors	19
general_qs: all other questions	17
not_compat: messages concerning non-compatible systems	4
no_compat_PC: messages concerning PC's and Mac's	7
enhance_req: user suggested enhancements	
kudos: happy comments :-)	1
comments: other user comments	1
phone calls: phone calls from users	10
- Resolved problems: resolved major problems (series of messages)	2

Approved: _____ G. Eichhorn
Achievement: _____ J. Stoner (ESI)

Status as of: 1 August 1994

SYSTEM INTEGRATION

TASKS ACCOMPLISHED:

The primary work at Ellery during July has been to continue support of ADS QA at CASA and the ADS project in general:

- Devin Hooker worked on a TCP port to SunOS of the EOS/FastLane software.
- Lowell Schneider worked on a name service application that runs as a FastLane client/server.
- Project management, reporting and planning support were also done for the ADS by Jeff Stoner.

Plans for the next two months of August and September are:

- Ongoing bug fixes and support to project as needed.
- Participation in discussions of new ADS services.

Approved: _____ G. Eichhorn
Achievement: _____ S. Murray (SAO)

Status as of: 1 August 1994

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Made improvements to Mosaic version of Abstract Service, including:
 - * the addition of data tables from Simbad (where available);
 - * the implementation of query feedback to re-send a query based on the results of a previous query;
 - * the ability to check abstracts of the list to get back a formatted batch of abstracts (instead of one at a time).
- Worked on WAIS indexing the abstracts.

NIST Archive Service:

- Continued development of server body and GUI.
- Finished tasks necessary for retrieving lists of data holdings from NIST.
- Began tasks necessary for retrieving data sets.
- Set up file transfer server at NIST to transfer results into ADS.

Data Dictionary Server:

- Finalized design for the data dictionary files and server.
- Began work on perl scripts to automatically create the data dictionary files.
- Worked on data dictionary server code.

Einstein Archive Service:

- Added 18 IPC unscreened event list cdroms to the database and made them available through the Mosaic version of the *Einstein* Archiver Service.
- Announced the Mosaic version on the WWW.

Miscellaneous:

- Answered user questions about the Abstract Service (both ADS version and Mosaic version).
- Continued work with a summer intern on incorporating new catalogs into ADS.
- Submitted abstracts for poster papers for upcoming ADASS conference.

Approved: _____ G. Eichhorn
 Achievement: _____ J. Good (IPAC)

Status as of: 1 August 1994

OPERATIONS

ADS USER/USAGE STATISTICS:

	IPAC	IUE	PSU	SAO	HEASRC	STSCI	CASA	EUVE	NSSDC	APS
startup :	7	17	1	9	4	3	11	14	2	20
query :	382	50	9	157	32	163	149	24	0	92
schema :	379	50	9	157	31	157	147	24	0	90
retrieve :	12296	97	10	1114	273	1597	3676	75	0	3590
abort :	332	49	7	132	29	161	133	16	0	79
report :	2086	1460	1546	1536	1482	1504	1086	1764	1527	1423

- startup* - Gives the number of hard startx ups of the SQLserver at the given node location
- query* - Records how many queries users sent to that particular node.
- schema* - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).
- retrieve* - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.
- abort* - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.
- report* - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

Abstracts

user	logins	queries	short	long	list
1846	5347	22609	364917	12002	6600

- users* - Number of distinct users using the abstract service
- logins* - Number of logins into the abstract service
- queries* - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).
- short* - Number of lines of short abstract information retrieved (authors and titles).
- long* - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ C. Cornuelle (APS)

Status as of: 1 August 1994

SUPPLIERS OF DATA

APS/UMinn

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 August 1994

SUPPLIERS OF DATA (Cont'd)

CASA

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 August 1994

Achievement: _____ B. Stroozas (CEA/Berkeley)

SUPPLIERS OF DATA (Cont'd)

CEA

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 August 1994

Achievement: _____ S. Drake (HEASARC/GSFC)

SUPPLIERS OF DATA (Cont'd)

HEASARC/GSFC

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Mazzarella (IPAC)

Status as of: 1 August 1994

SUPPLIERS OF DATA (Cont'd)

IPAC/CALTECH

TASKS ACCOMPLISHED:

- Nothing to report

Approved: _____ G. Eichhorn
Achievement: _____ P. Lawton (IUE/GSFC)

Status as of: 1 August 1994

SUPPLIERS OF DATA (Cont'd)

IUE/GSFC

TASKS ACCOMPLISHED:

- Replacement disk installed. INGRES tables moved to new disk.
- Answered questions for NASA Headquarter personnel.

ADS User/Usage Statistics:

JULY

- query	50	- startup	17
- retrieve	97	- withdraw	51
- schema	50	- shutdown	17
- status	50		
- abort	49	- query making users	8
- report	1460	- total users	18
- export	51	- new users	5
- export_failure	0		

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ W. Martin (NIST)

Status as of: 1 August 1994

SUPPLIERS OF DATA (Cont'd)

NIST

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Nousek (PSU)

Status as of: 1 August 1994

SUPPLIERS OF DATA (Cont'd)

PSU

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ M. Garcia(SAO)

Status as of: 1 August 1994

SUPPLIERS OF DATA (Cont'd)

SAO

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ A. Farris (STScI)

Status as of: 1 August 1994

SUPPLIERS OF DATA (Cont'd)

STScI

TASKS ACCOMPLISHED:

- Nothing to report

ASTROPHYSICS DATA SYSTEM

NASA Grant NCCW-0024

**Monthly Progress Report No. 30
for August 1994**

Prepared for

**National Aeronautics and Space Administration
Astrophysics Division - Code SZ**

**Smithsonian Institution
Astrophysical Observatory
Cambridge, Massachusetts 02138**

**The Smithsonian Astrophysical Observatory
is a member of the
Harvard-Smithsonian Center for Astrophysics**

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 September 1994

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NIST:

W. Martin

ESI:

J. Stoner

PSU:

J. Nousek

GSFC/HEASARC:

S. Drake

SAO/EINSTEIN:

M. Garcia

GSFC/TUE:

R. Thompson

SAO/PROJ:

S. Murray

GSFC/NSSDC:

M. Van Steenberg

STScI:

A. Farris

IPAC/ADS:

J. Good

U. Minn:

C. Cornuelle

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 September 1994

SUMMARY

We continued to work on the restructuring of the ADS. We are trying to get most of the data services up on the World Wide Web. The following URL has links to the services that are currently available on the Web: http://adswwww.harvard.edu/ads_services.html. We currently have catalogs at SAO, CASA, and the University of Minnesota on-line. The nodes at EUVE and PSU are working to get their catalogs on-line.

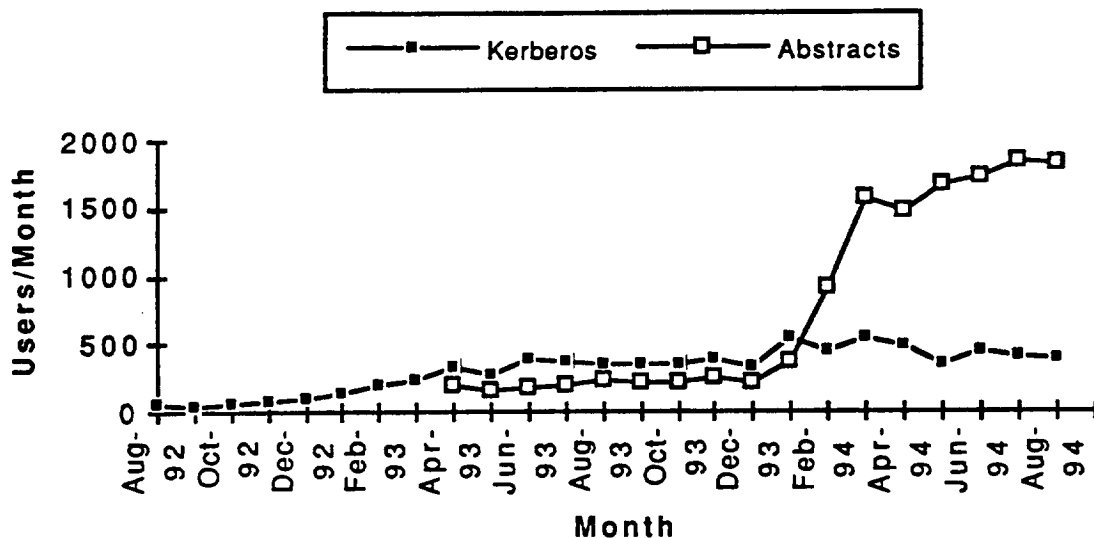
Preparations for the ADASS meeting in Baltimore continued. We will present two poster papers and one oral paper. We will also have a demo. We will show our WWW services at this demo.

The statistics show a leveling of the number of logins but a continuing rise in the number of retrieved references in the abstract service.

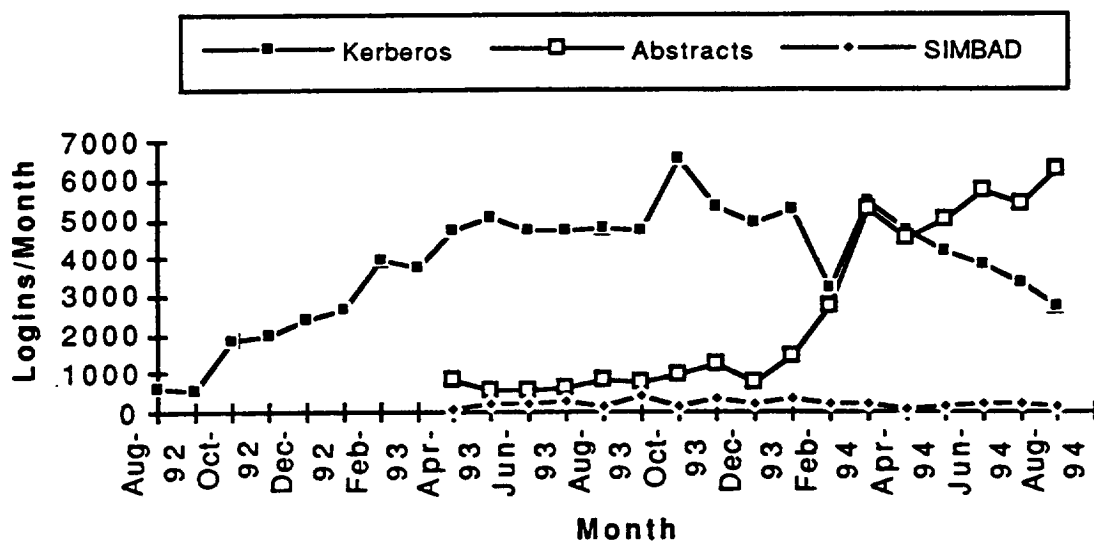
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 September, 1994

Number of Distinct Users



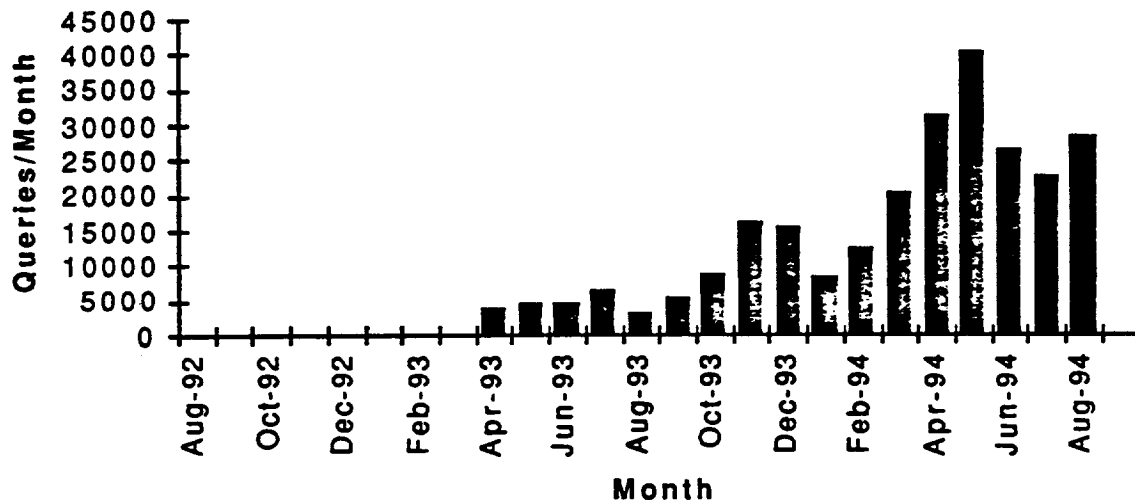
Number of Logins



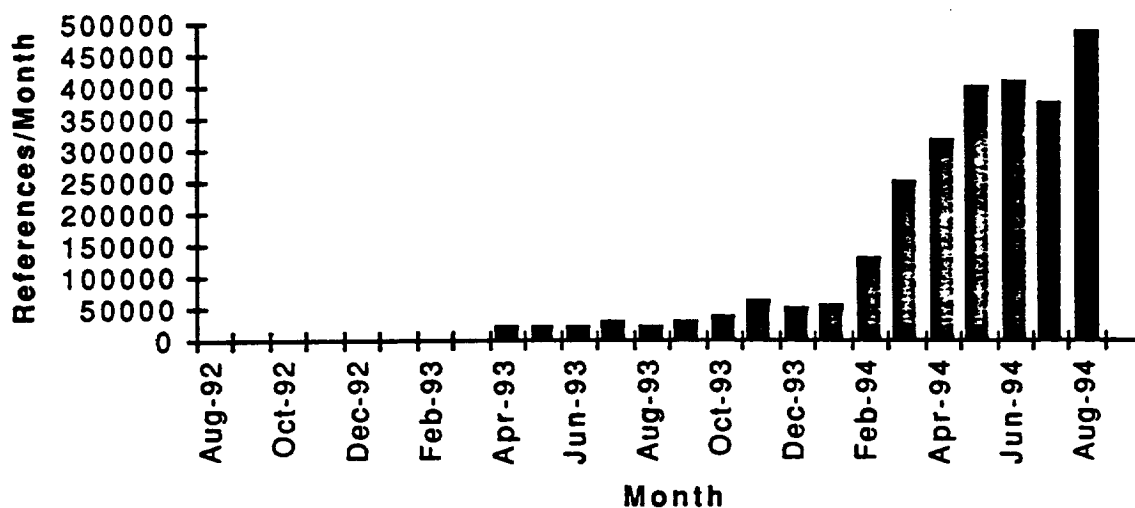
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 September, 1994

Number of Abstract Queries



Number of Retrieved Reference



SAO ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 September 1994

SYSTEM ENGINEERING

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Nousek (PSU)

Status as of: 1 September 1994

USER COMMITTEE

PSU:

- Nothing to report

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 September 1994

USER SUPPORT

CASA:

The month of August was spent regrouping after our news of the project restructuring in July. Efforts associated with the transition of the project from a proprietary data system to a Mosaic/WWW based system continued. A CASA Statement-of-Work proposal for a onetime augmentation to the current contract ending September 30, 1994, was submitted to SAO.

An announcement regarding the restructuring of the project from Dr. Steve Murray was included in the ADS Mosaic home page. We are continuing to register and support users for the "classic" ADS system until further notice from the SAO project management team.

TASKS ACCOMPLISHED:

- User Support statistics for the month:

- New users:	42
- New US users:	26
- New non-US users:	16
- Total registered users:	2212
- Total US users:	1643
- Total non-US users :	569

- _ADS Operational Web Server Statistics for the month:
 - August's statistics can be found at the following http address:
 - * <http://adswww.colorado.edu/reports/status.August94>

 - Statistics for all months can be found at the following http address:
 - * <http://adswww.colorado.edu/reports/reports.html>

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 September 1994

USER SUPPORT (Cont'd)

CASA:

TASKS ACCOMPLISHED (cont'd):

- Answered questions: (includes the following)	114
info_request: registration and installation requests	10
reg_forms: completed registration forms (16 from WWW)	42
info_change: requests to change status, email,	2
new_password: requests for new password (forgot old one)	8
how_to_qs: questions about how to use the ADS	2
install_qs: questions concerning installation	2
error_qs: questions concerning minor errors	15
general_qs: all other questions	15
not_compat: messages concerning non-compatible systems	1
no_compat_PC: messages concerning PC's and Mac's	9
enhance_req: user suggested enhancements	
kudos: happy comments :-)	
comments: other user comments	4
phone calls: phone calls from users	4
- Resolved problems: resolved major problems (series of messages)	9

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Stoner (ESI)

Status as of: 1 September 1994

SYSTEM INTEGRATION

TASKS ACCOMPLISHED:

- Nothing to report.

Approved: _____ G. Eichhorn
Achievement: _____ S. Murray (SAO)

Status as of: 1 September 1994

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Modified code for setting up a wais server as an alternative search engine for the abstract service.
- Indexed abstracts and brought up a prototype server.
- Tried to read optical disks containing STELAR data.

NIST Archive Service:

- Continued development of server body and GUI.
- Began working on Mosaic version of the GUI.

Data Dictionary Server:

- Reworked format of data dictionary (meta-data) files.

Miscellaneous:

- Answered user questions about the Abstract Service (both ADS version and Mosaic version).
- Continued work with a summer intern on incorporating new catalogs into ADS.

Approved: _____ G. Eichhorn
 Achievement: _____ J. Good (IPAC)

Status as of: 1 August 1994

OPERATIONS

ADS USER/USAGE STATISTICS:

	IPAC	IUE	PSU	SAO	HEASRC	STSCI	CASA	EUVE	NSSDC	APS
startup :	9	4	2	3	4	3	4	23	1	11
query :	287	18	1	47	13	224	84	29	12	41
schema :	275	18	1	43	12	218	84	29	12	41
retrieve :	4698	29	2	1397	13	3418	6890	109	20	8255
abort :	260	17	1	43	13	218	77	26	12	40
report :	2564	1870	1890	1870	1822	1867	1378	1134	1889	1831

startup - Gives the number of hard startx ups of the SQLserver at the given node location

query - Records how many queries users sent to that particular node.

schema - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).

retrieve - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.

abort - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.

report - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

Abstracts

user	logins	queries	short	long	list
1831	6292	28007	466508	19370	1680

users - Number of distinct users using the abstract service

logins - Number of logins into the abstract service

queries - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).

short - Number of lines of short abstract information retrieved (authors and titles).

long - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ C. Cornuelle (APS)

Status as of: 1 September 1994

SUPPLIERS OF DATA

APS/UMinn

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 September 1994

SUPPLIERS OF DATA (Cont'd)

CASA

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ B. Stroozas (CEA/Berkeley)

Status as of: 1 September 1994

SUPPLIERS OF DATA (Cont'd)

CEA

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 September 1994

Achievement: _____ S. Drake (HEASARC/GSFC)

SUPPLIERS OF DATA (Cont'd)

HEASARC/GSFC

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Mazzarella (IPAC)

Status as of: 1 September 1994

SUPPLIERS OF DATA (Cont'd)

IPAC/CALTECH

TASKS ACCOMPLISHED:

- Nothing to report

Approved: _____ G. Eichhorn
Achievement: _____ P. Lawton (IUE/GSFC)

Status as of: 1 September 1994

SUPPLIERS OF DATA (Cont'd)

IUE/GSFC

TASKS ACCOMPLISHED:

- IUE reviewed the WWW ADS catalogs access.

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- As part of an approved ADP program, an on-line archive of Copernicus spectra using FITS format is being prepared. A catalog of the data sets has been installed in Ingres and will be available to ADS users once the necessary documentation has been completed.
- The IUE merged observing log is being updated. The new version should be available early next month.

ADS User/Usage Statistics:

AUGUST

- query	18	- startup	4
- retrieve	29	- withdraw	12
- schema	18	- shutdown	4
- status	18		
- abort	49	- query making users	4
- report	1870	- total users	12
- export	12	- new users	1
- export_failure	0		

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 September 1994

Achievement: _____ W. Martin (NIST)

SUPPLIERS OF DATA (Cont'd)

NIST

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 September 1994

Achievement: _____ J. Nousek (PSU)

SUPPLIERS OF DATA (Cont'd)

PSU

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ M. Garcia(SAO)

Status as of: 1 September 1994

SUPPLIERS OF DATA (Cont'd)

SAO

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ A. Farris (STScI)

Status as of: 1 September 1994

SUPPLIERS OF DATA (Cont'd)

STScI

TASKS ACCOMPLISHED:

- Nothing to report

ASTROPHYSICS DATA SYSTEM

NASA Grant NCCW-0024

Monthly Progress Report No. 31 for September 1994

Prepared for

National Aeronautics and Space Administration
Astrophysics Division - Code SZ

Smithsonian Institution
Astrophysical Observatory
Cambridge, Massachusetts 02138

The Smithsonian Astrophysical Observatory
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Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 Octobert 1994

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R. Thompson

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S. Murray

GSFC/NSSDC:
M. Van Steenberg

STScI:
A. Farris

IPAC/ADS:
J. Good

U. Minn:
C. Cornuelle

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 October 1994

SUMMARY

Following is the announcement of the new ADS direction. The old ADS system will not be supported anymore. It will continue to work for the time being, depending on how much time the different nodes are willing to spend on keeping it up. We are trying to get as much of the data services up on the World Wide Web as possible. The following URL has links to the services that are currently available on the Web:
http://adswwww.harvard.edu/ads_services.html. We currently have catalogs at SAO, CASA, and the University of Minnesota on-line. The nodes at EUVE and PSU are working to get their catalogs on-line.

ADS Restructuring Announcement 22 September 1994

INTRODUCTION

The Astrophysics Data System is in the process of being restructured. NASA has requested us to reduce the scope and budget relative to previous ADS activities. The main emphasis of the restructured ADS Project will be the operation and development of the ADS Abstract Service. We also will consolidate the data assets already created by the ADS Project so that they will be administered within the restructured project and continue to be made available.

The restructuring of the ADS is necessitated by continued budgetary pressures within NASA. The availability of alternative distributed data access mechanisms allows the ADS Project to phase out the proprietary software that was used by the project in favor of WWW based protocols while still maintaining some of the infrastructure that is a key component of this distributed information system. Our objective is to provide complete support for the existing ADS Abstract Service and to maintain access to as much of the existing ADS data assets as possible within the constraints of our resources. We will continue to operate the "classical" ADS for as long as possible during this transition to WWW services. However, we will not be able to provide high levels of user or node support with our reduced resources.

ABSTRACT SERVICE

The Abstract Service of the Astrophysics Data System has been very successful in providing the astronomy researcher the capability to search the astronomical literature. It currently provides access to over 160,000 astronomical abstracts with a sophisticated search engine. The emphasis of the ADS in the coming year will be to utilize technologies like the World Wide Web (WWW) to provide access for a wide variety of users through public domain client software. We plan on expanding the abstract data base to cover more topics, *e.g.*, instrumentation and space physics. We are also examining adding to the functionality of the Abstract Service (http://adswwww.harvard.edu/abstract_service.html) by including a citation index that will allow users to browse through the abstracts of references associated with the current abstract.

Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 October 1994

SUMMARY (Cont'd)

Development work will include cooperation with the publishers of astronomical literature to provide access to the original author abstracts. We will also work on providing access to the full articles in bitmapped form. As a first step in this direction we plan to provide links to the bitmaps of journal articles that were produced by the STELAR project. User response to having full journal articles available and linked with the abstracts will be evaluated. If it proves to be a valuable service, we will work with publishers to digitize more of the old literature and to see whether we can provide access to electronic forms of new articles.

Recently it has become possible to "publish" electronically, data tables from a journal article. We have started work on linking these data tables to the abstracts of the articles. We are making use of the on-line data currently available through the CDS in Strasbourg. Our objective is to provide access to these data from the abstracts that refer to them.

The efforts described above will extend the scope of the abstract service and expand it into a wide ranging Digital Library service with greatly enhanced utility for the astronomical community.

CATALOGS AND ARCHIVES

Another part of our data access effort is to provide access through the World Wide Web to the data that are available through the ADS. We currently have a prototype WWW Catalog Access Tool (http://adswwww.harvard.edu/catalog_service.html) available. This tool provides access to catalogs at SAO, at CASA (at the University of Colorado), and at the University of Minnesota. For some catalogs, like the plate scan data at the University of Minnesota, the ADS is the primary means of data access. It is therefore important that we maintain this catalog access.

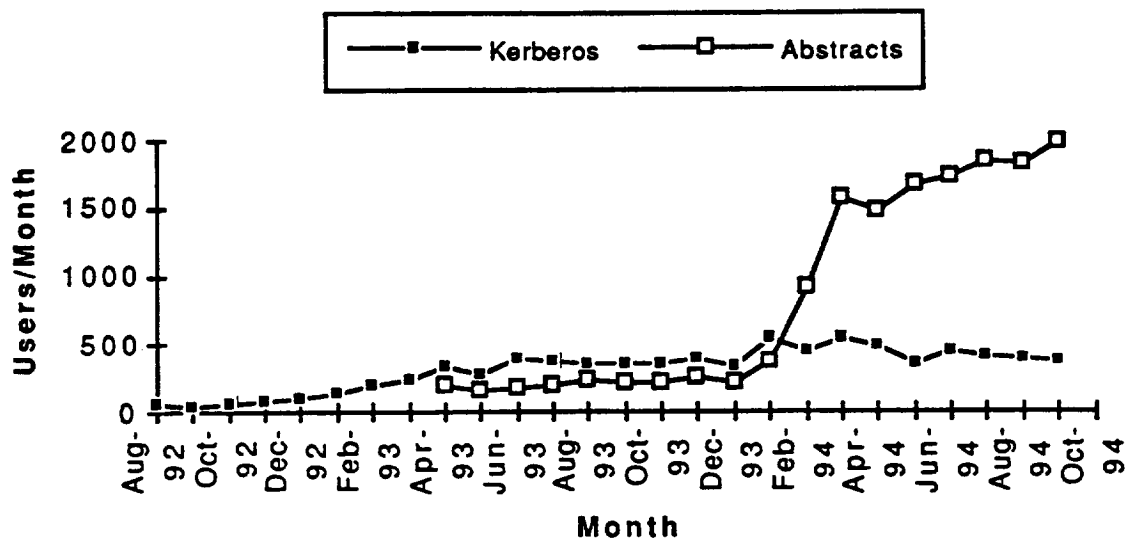
The central location service provided by the ADS helps to deal with the general problem of how the user community can know about the existence of valuable data. We plan to continue to provide this important (and unique) function through our Web Catalog Server. Similarly, we are working on a prototype WWW server for archival data. Our initial effort is to provide access to the *Einstein* Observatory data set (http://adswwww.harvard.edu/einstein_service.html) maintained at SAO. We plan to work with our current ADS data providers to help in the transition from ADS servers using our proprietary protocol to servers based on WWW protocols. We will also include links within the ADS WWW Services HomePage (http://adswwww.harvard.edu/ads_services.html) to other sources of astronomical data so that users can have a single starting point for finding these resources.

Further information about the ADS can be obtained by contacting us at ads@cfa.harvard.edu.

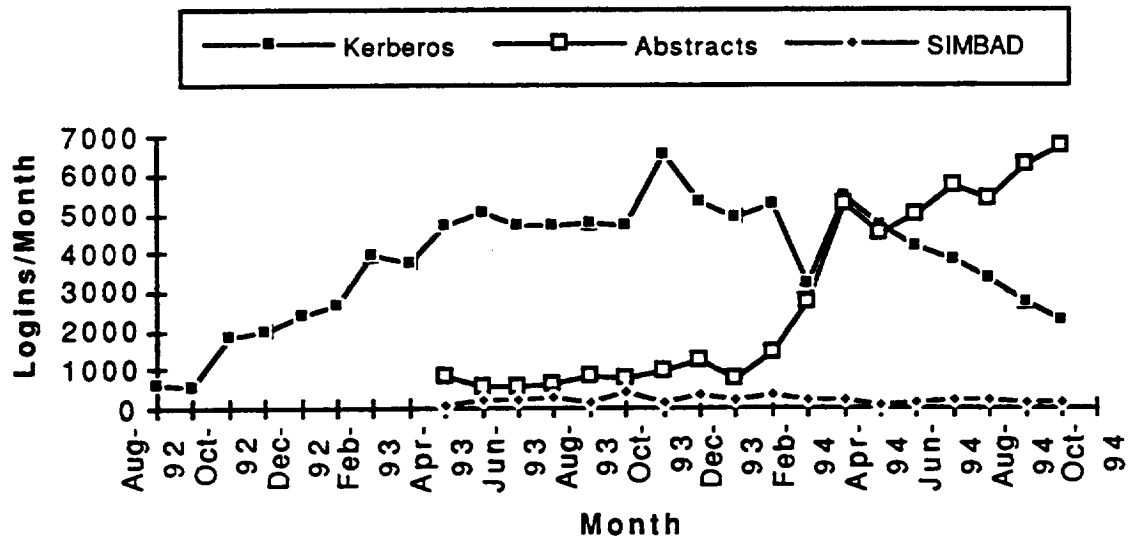
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 October, 1994

Number of Distinct Users



Number of Logins



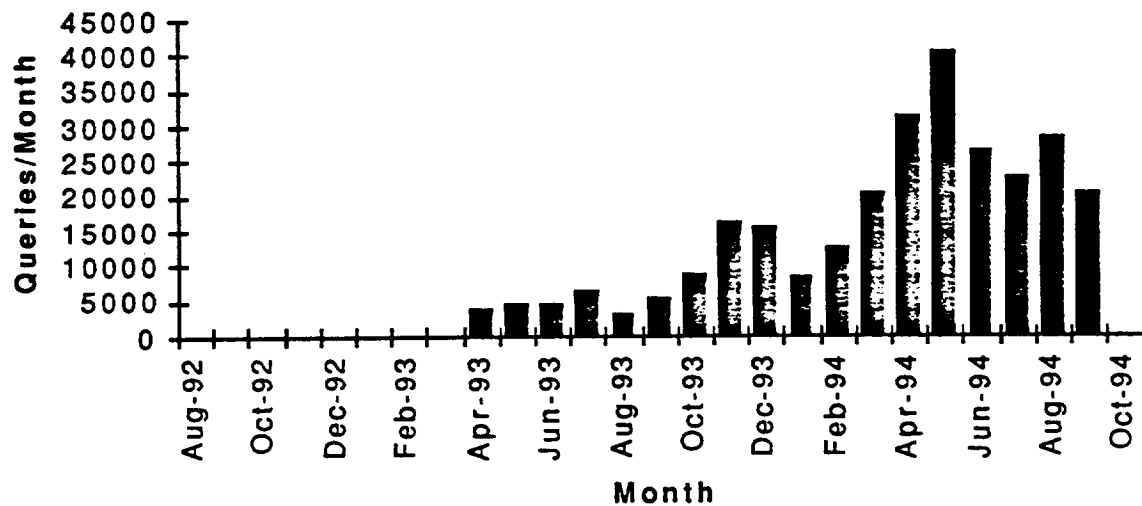
SAO

ASTROPHYSICS DATA SYSTEM

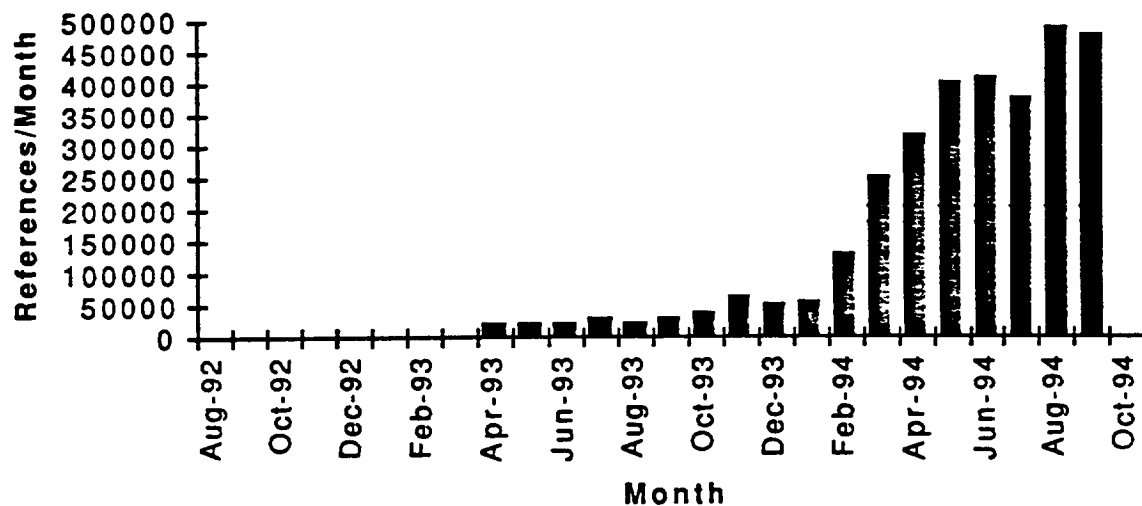
Approved: _____ S. Murray
Achievement: _____ G. Eichhorn (SAO)

Status as of: 1 October, 1994

Number of Abstract Queries



Number of Retrieved Reference



SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Good (IPAC)

Status as of: 1 October 1994

SYSTEM ENGINEERING

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Nousek (PSU)

Status as of: 1 October 1994

USER COMMITTEE

PSU:

- Nothing to report

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 October 1994

USER SUPPORT

CASA:

TASKS ACCOMPLISHED:

- Total new users:	64
- Total new US users:	48
- Total new non-US users :	16
- Total registered users:	2276
- Total US users:	1692
- Total non-US users :	584
- Answered questions: (includes the following)	144
info_request: registration and installation requests	7
reg_forms: completed registration forms (52 from WWW)	68
info_change: requests to change status, email,	16
new_password: requests for new password (forgot old one)	10
how_to_qs: questions about how to use the ADS	7
install_qs: questions concerning installation	1
error_qs: questions concerning minor errors	10
general_qs: all other questions	8
not_compat: messages concerning non-compatible systems	6
not_compat_PC: messages concerning PC's and Mac's	7
enhance_req: user suggested enhancements	1
kudos: happy comments :-)	
comments: other user comments	
phone calls: phone calls from users	3
- Resolved problems: resolved major problems (series of messages)	5

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Stoner (ESI)

Status as of: 1 October 1994

SYSTEM INTEGRATION

TASKS ACCOMPLISHED:

- Nothing to report.

Approved: _____ G. Eichhorn
Achievement: _____ S. Murray (SAO)

Status as of: 1 October 1994

DEVELOPMENT

SAO

TASKS ACCOMPLISHED:

Abstract Service:

- Completed WAIS indexing of abstracts and brought the WAIS server online.
- Wrote specifications for updated procedures to load data in the abstract database (including data from SIMBAD and direct from the journals).
- Implemented a mailing list in Mosaic for people who want to be informed about updates to the abstract database.

NIST Archive Service:

- Continued development of server body, GUI, and Mosaic interface.

Data Dictionary Server:

- Continued modifying data dictionary (meta-data) formats.

Coordinate Conversion Server:

- Began work on replicating this service in Mosaic.

Miscellaneous:

- Prepared talk and poster papers for ADASS.
- Attended ADASS meeting and presented talk, poster papers, and demonstration.
- Answered user questions about the Abstract Service (both ADS version and Mosaic version).
- Helped put new version of Minnesota plate catalogs into ADS and Mosaic.
- Modified help text for ADS services in Mosaic.

Approved: _____ G. Eichhorn
 Achievement: _____ J. Good (IPAC)

Status as of: 1 October 1994

OPERATIONS

ADS USER/USAGE STATISTICS:

	IPAC	IUE	PSU	SAO	HEASRC	STSCI	CASA	EUVE	NSSDC	APS
startup :	6	4	2	4	4	3	1	7	1	9
query :	146	6	8	52	42	88	12	5	12	186
schema :	141	5	8	52	39	86	11	5	12	181
retrieve :	723	12	10	89	141	2152	583	9	20	3242
abort :	136	6	4	47	39	84	12	5	12	172
report :	2181	1694	1730	1691	1456	1697	274	1401	1889	1627

startup - Gives the number of hard startx ups of the SQLserver at the given node location

query - Records how many queries users sent to that particular node.

schema - Retrieves the query result file format (i.e., table header and number of records found). It therefore represents the number of successfully completed queries (though not necessarily transferred back to the user).

retrieve - Records all user requests to bring data from a successful query back to the user location. Data is returned one screen at a time, and a retrieve is issued for each screen of returned data, whether that screen has one or more lines of data.

abort - Records each time a query session ends. Currently, this can signal either that the user requested a termination or that all the data had been transferred.

report - Records the number of inquiries about the current status of the SQLserver program. Such inquiries can only be issued by the srvadm program.

Abstracts

user	logins	queries	short	long	list
1983	6719	20413	460103	117133	660

users - Number of distinct users using the abstract service

logins - Number of logins into the abstract service

queries - Number of queries sent to the abstract service (one specification of authors, keywords, titles etc is one query. One query may return thousands of abstracts).

short - Number of lines of short abstract information retrieved (authors and titles).

long - Number of complete abstracts retrieved (authors, titles, keywords, author affiliation, journal information, abstract text).

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ C. Cornuelle (APS)

Status as of: 1 October 1994

SUPPLIERS OF DATA

APS/UMinn

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ T. Snow (CASA)

Status as of: 1 October 1994

SUPPLIERS OF DATA (Cont'd)

CASA

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 October 1994

Achievement: _____ B. Stroozas (CEA/Berkeley)

SUPPLIERS OF DATA (Cont'd)

CEA

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn

Status as of: 1 October 1994

Achievement: _____ S. Drake (HEASARC/GSFC)

SUPPLIERS OF DATA (Cont'd)

HEASARC/GSFC

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Mazzarella (IPAC)

Status as of: 1 October 1994

SUPPLIERS OF DATA (Cont'd)

IPAC/CALTECH

TASKS ACCOMPLISHED:

- Nothing to report

Approved: _____ G. Eichhorn
Achievement: _____ P. Lawton (IUE/GSFC)

Status as of: 1 October 1994

SUPPLIERS OF DATA (Cont'd)

IUE/GSFC

TASKS ACCOMPLISHED:

- httpd 1.3 was installed.
- A list was made of the steps necessary to back all ADS software and accounts off of iuesn1 onto tapes and remove them from iuesn1.

WORK IN PROGRESS AND PROJECTED COMPLETION DATES:

- IUE plans to back all ADS software and accounts off iuesn1 onto tape next month.

ADS User/Usage Statistics:

SEPTEMBER

- query	6	- startup	4
- retrieve	12	- withdraw	12
- schema	5	- shutdown	4
- status	5		
- abort	6	- query making users	3
- report	1694	- total users	10
- export	12	- new users	1
- export_failure	0		

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ W. Martin (NIST)

Status as of: 1 October 1994

SUPPLIERS OF DATA (Cont'd)

NIST

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ J. Nousek (PSU)

Status as of: 1 October 1994

SUPPLIERS OF DATA (Cont'd)

PSU

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ M. Garcia(SAO)

Status as of: 1 October 1994

SUPPLIERS OF DATA (Cont'd)

SAO

TASKS ACCOMPLISHED:

- Nothing to report

SAO

ASTROPHYSICS DATA SYSTEM

Approved: _____ G. Eichhorn
Achievement: _____ A. Farris (STScI)

Status as of: 1 October 1994

SUPPLIERS OF DATA (Cont'd)

STScI

TASKS ACCOMPLISHED:

- Nothing to report

